



FlowFinder MK-2

Product Presentation by dr. ir. Niek-Jan Bink

quick intro



The **FlowFinder[®]mk2**:
the right tool to balance ventilation

ACIN

instrumenten bv

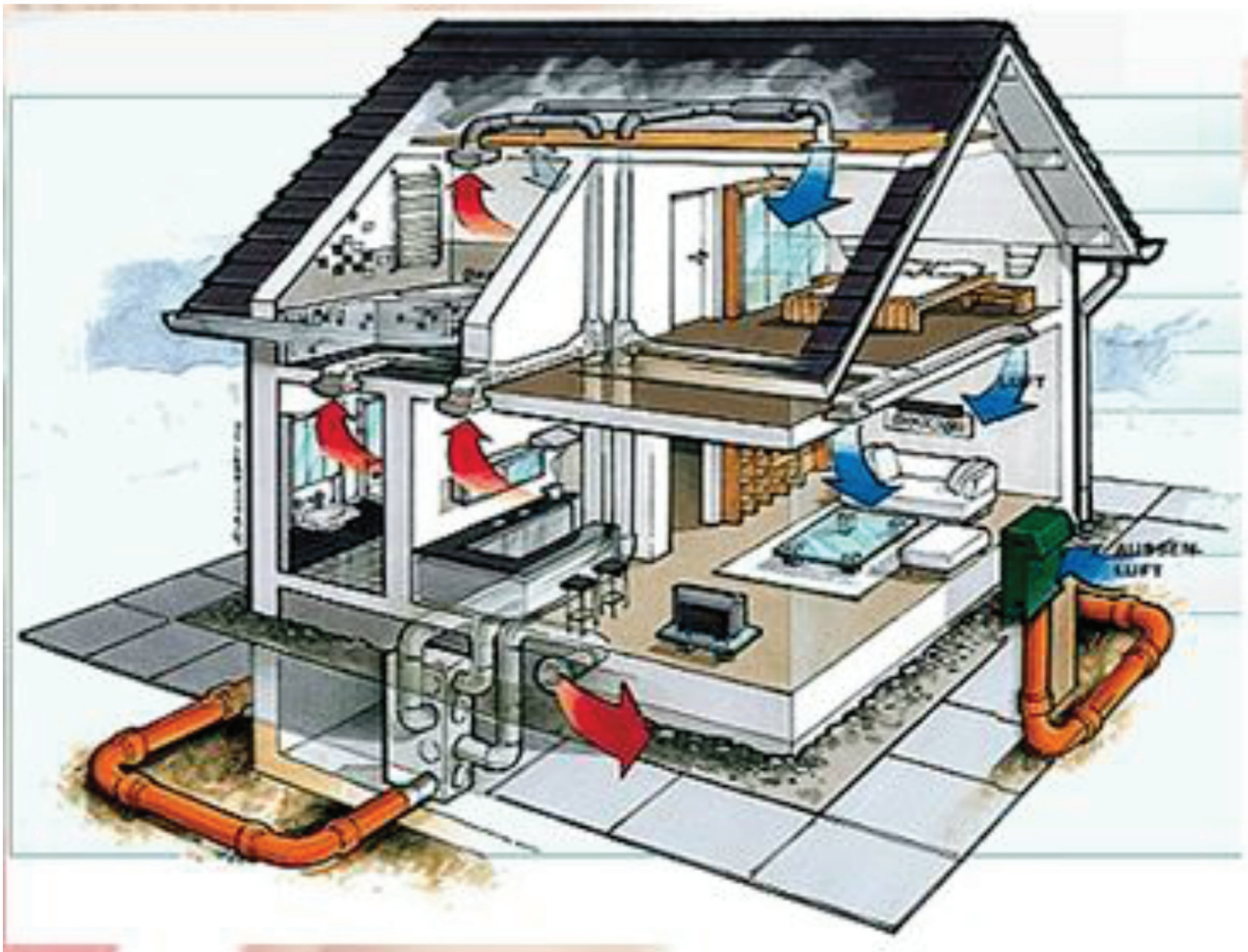
Dr Niek-Jan Bink

made to measure



FlowFinder^{mk2}
made in holland

Product 70



ACIN instrumenten

- Design, Production and Maintenance
- Measuring and Control Instrumentation
- Indoor and Outdoor climate





ACIN instrumenten

Products



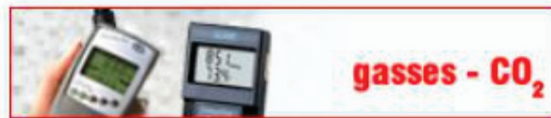
temperature & humidity



pressure



air velocity
air volume



gasses - CO₂



data processing



smoke products



specialisms



calibration & service

FlowFinder

- Idea of TNO
- Developed in the eighties
- Well known....
- Reliable
- Accurate
- Difficult to handle



Need for a FlowFinder MK-2

- Ease of use and data handling
- Higher accuracy
- Larger range
- Modernize



Operating principle: zero pressure compensation method

the resistance of the measuring instrument is compensated by means of a controlled fan, so the characteristics of the air distribution system are not influenced by the measurement.

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Need for a FlowFinder MK-2

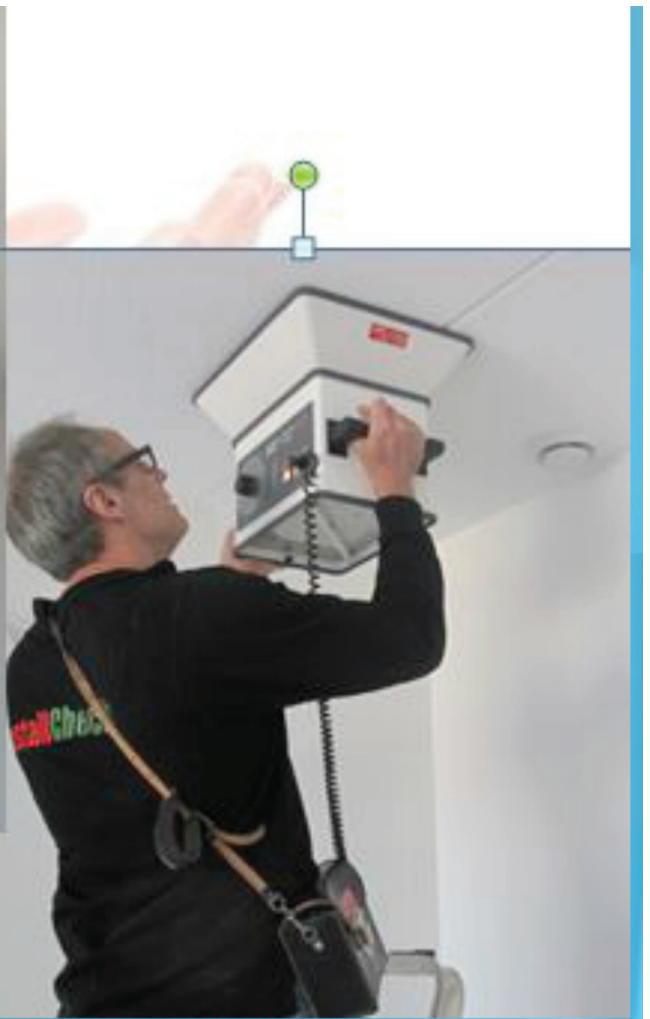
- Ease of use and data handling
- Higher accuracy
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Weight old FlowFinder:
3900 gram + 3200 gram
(instrument + battery case)

Weight new FlowFinder:
2230 gram, battery pack included

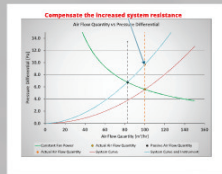
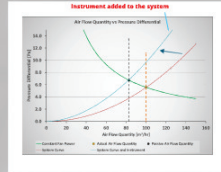
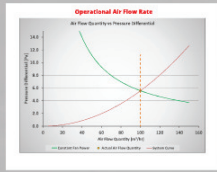




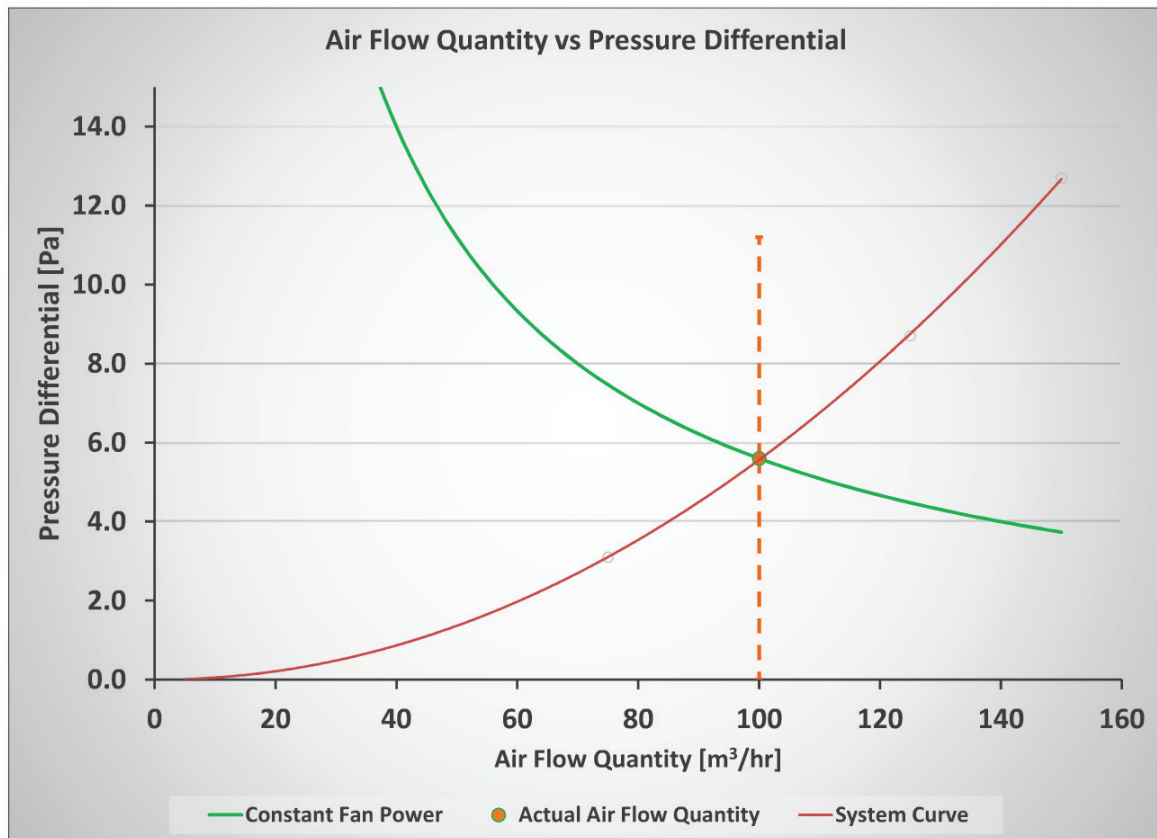
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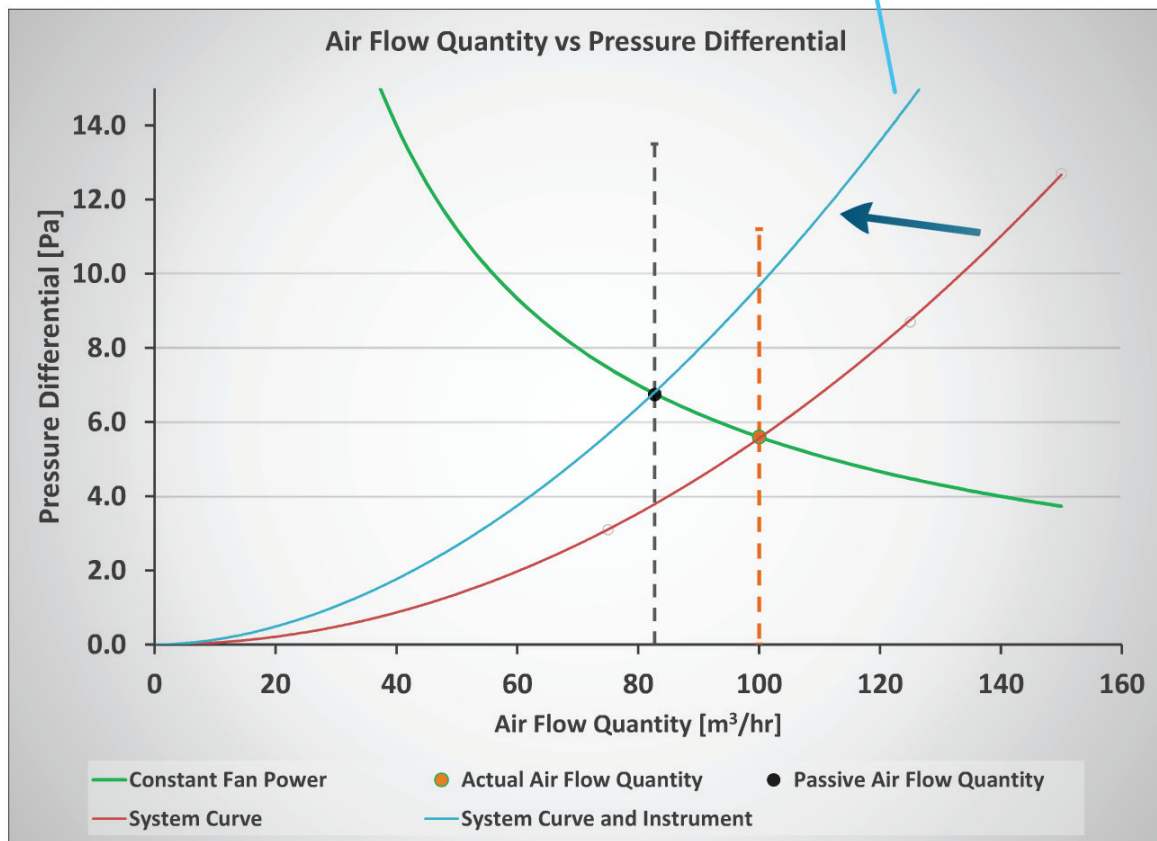
Passive vs Active



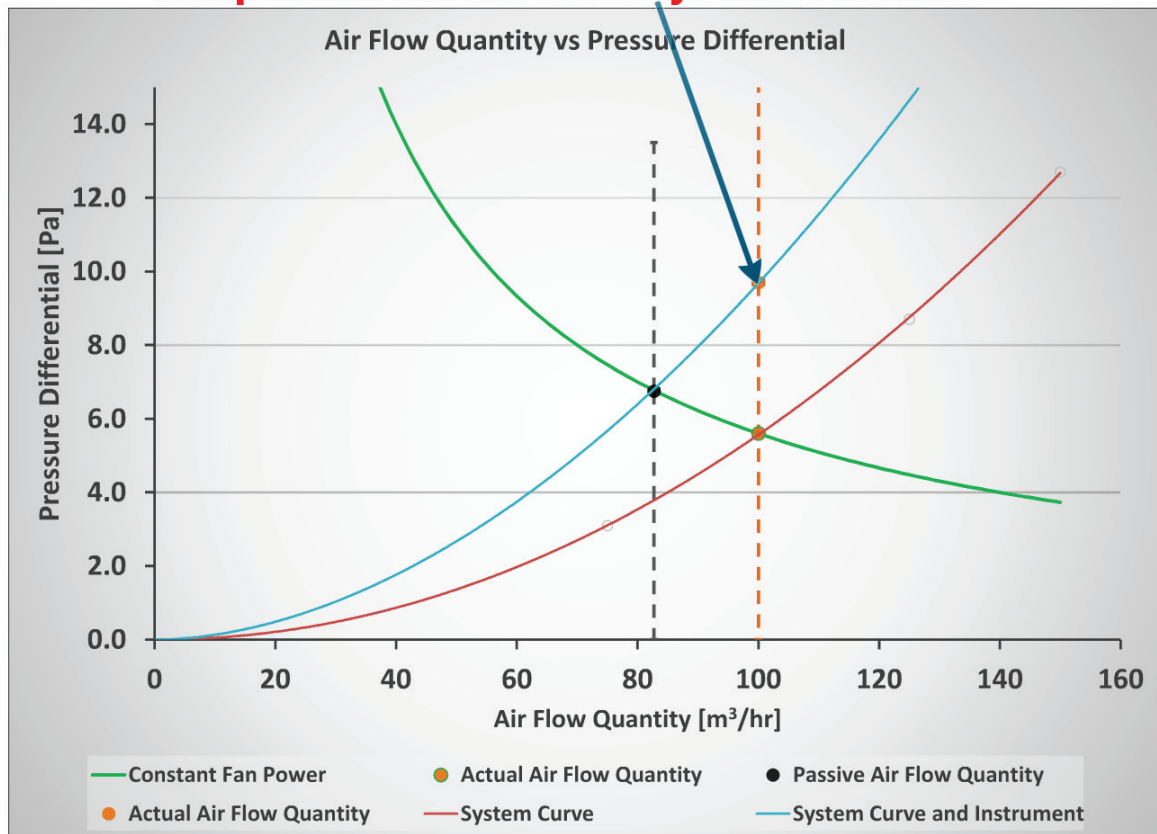
Operational Air Flow Rate



Instrument added to the system



Compensate the increased system resistance



Specifications FlowFinder[®]mk2

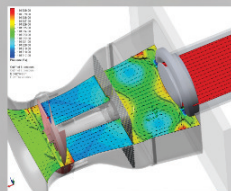
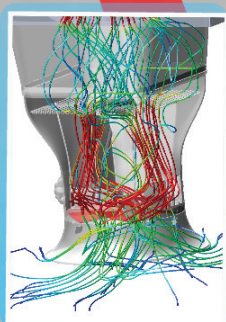
- air flow range (supply and exhaust)
10..550m³/h with zero pressure compensation
- uncertainty air flow (at 20 °C)
3% of the reading, with a minimum of 3 m³/h
- resolution air flow measurement
1m³/h, 0.1l/s, 0.1CFM

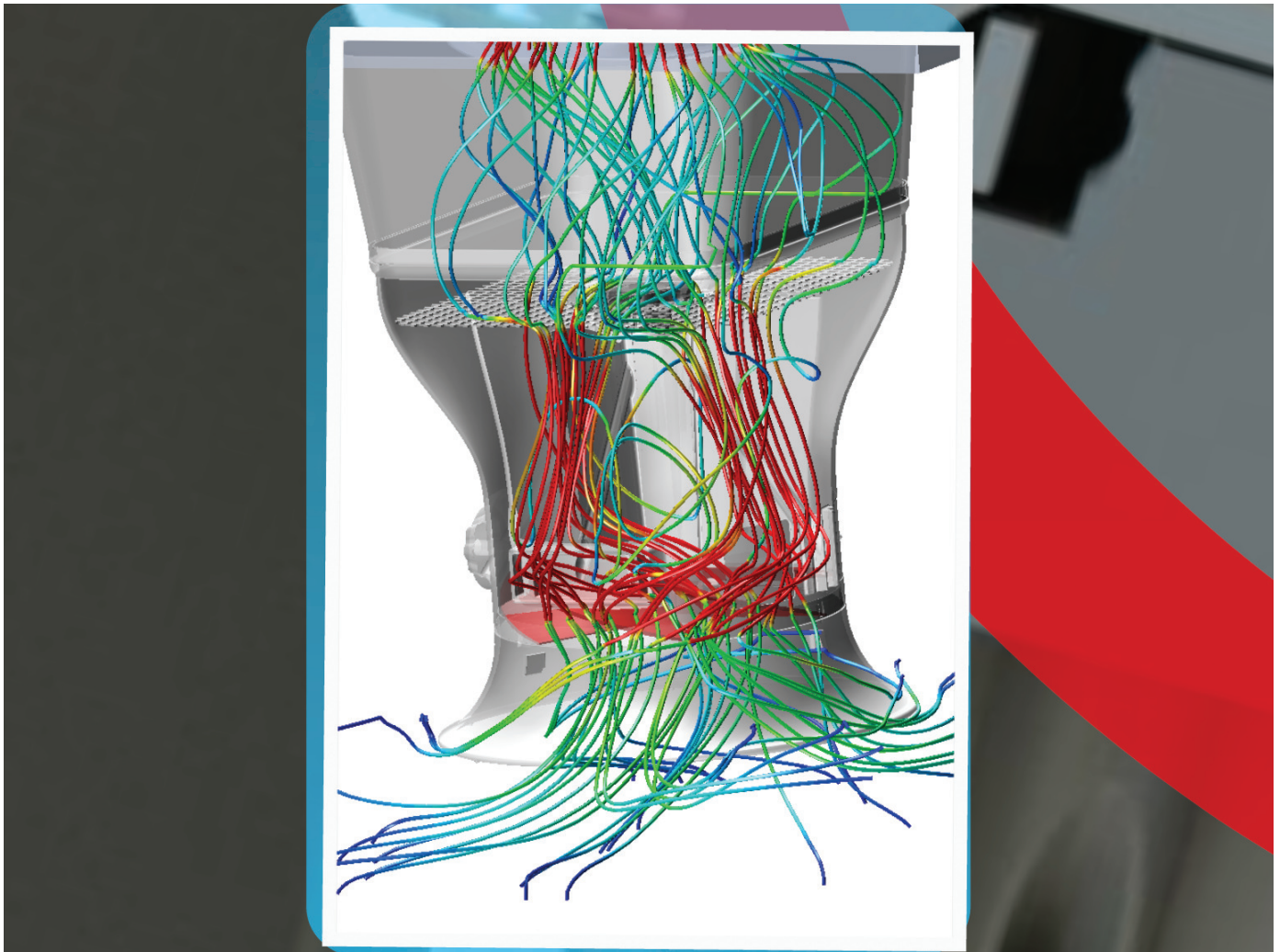
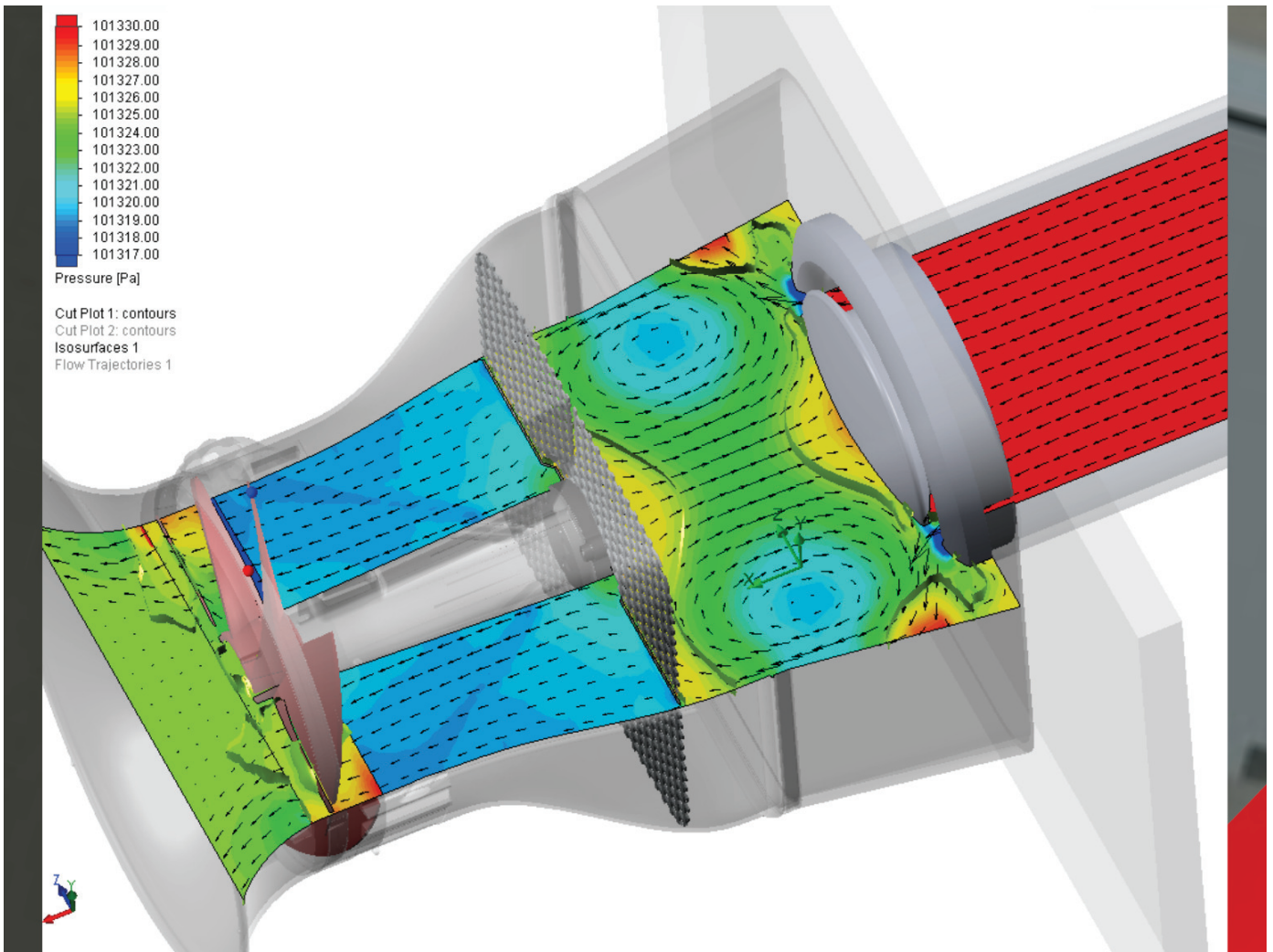
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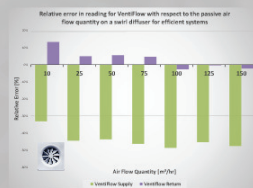
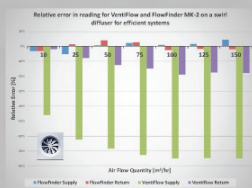
- Homogenize flow field around the fan
- Compensate for fundamentally different return flow field
- After-calculation to reduce errors
- Calculate zero-pressure point in case of:
 - low battery
 - very high air flow quantity (>800 m³/hr)

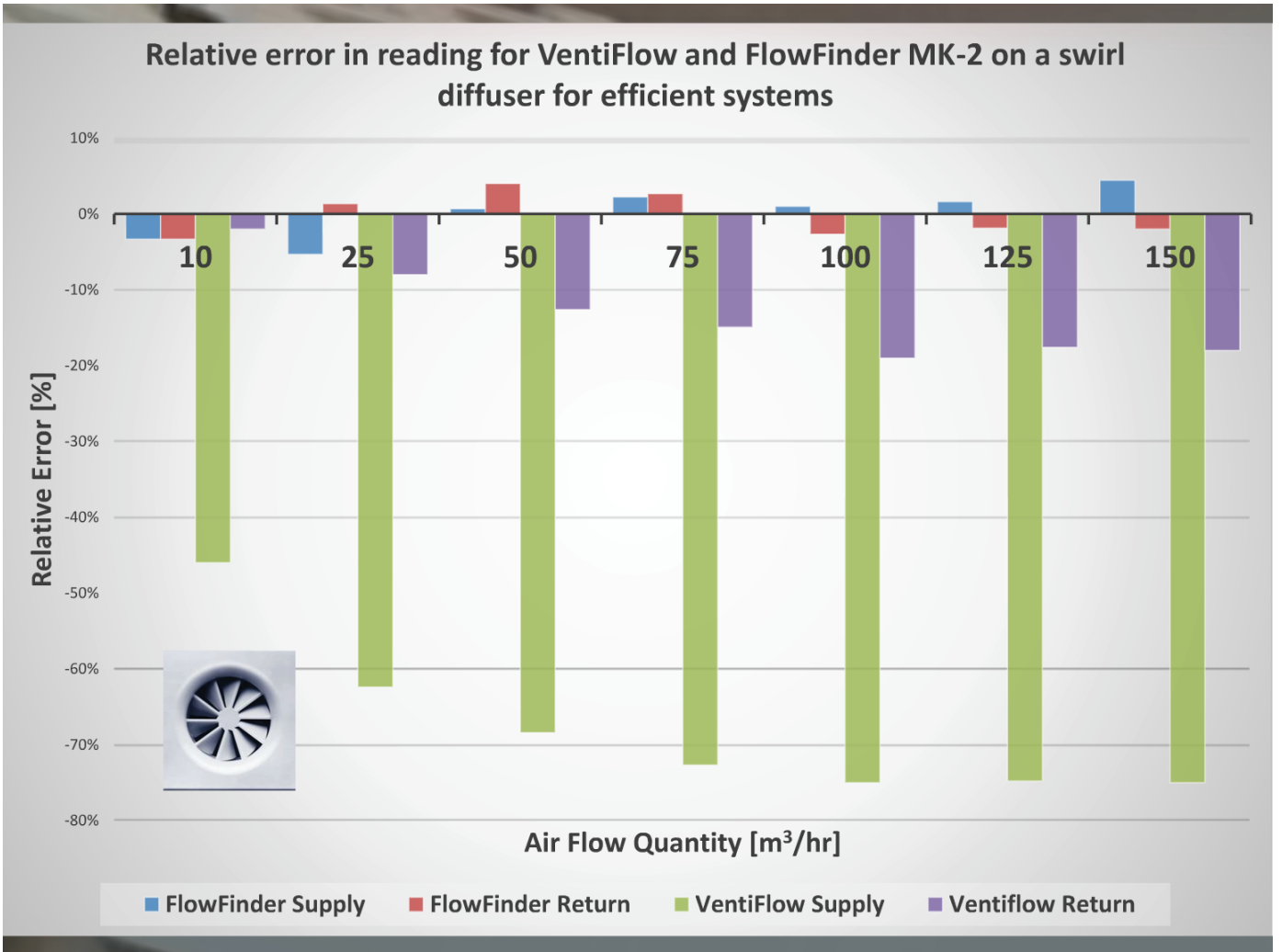
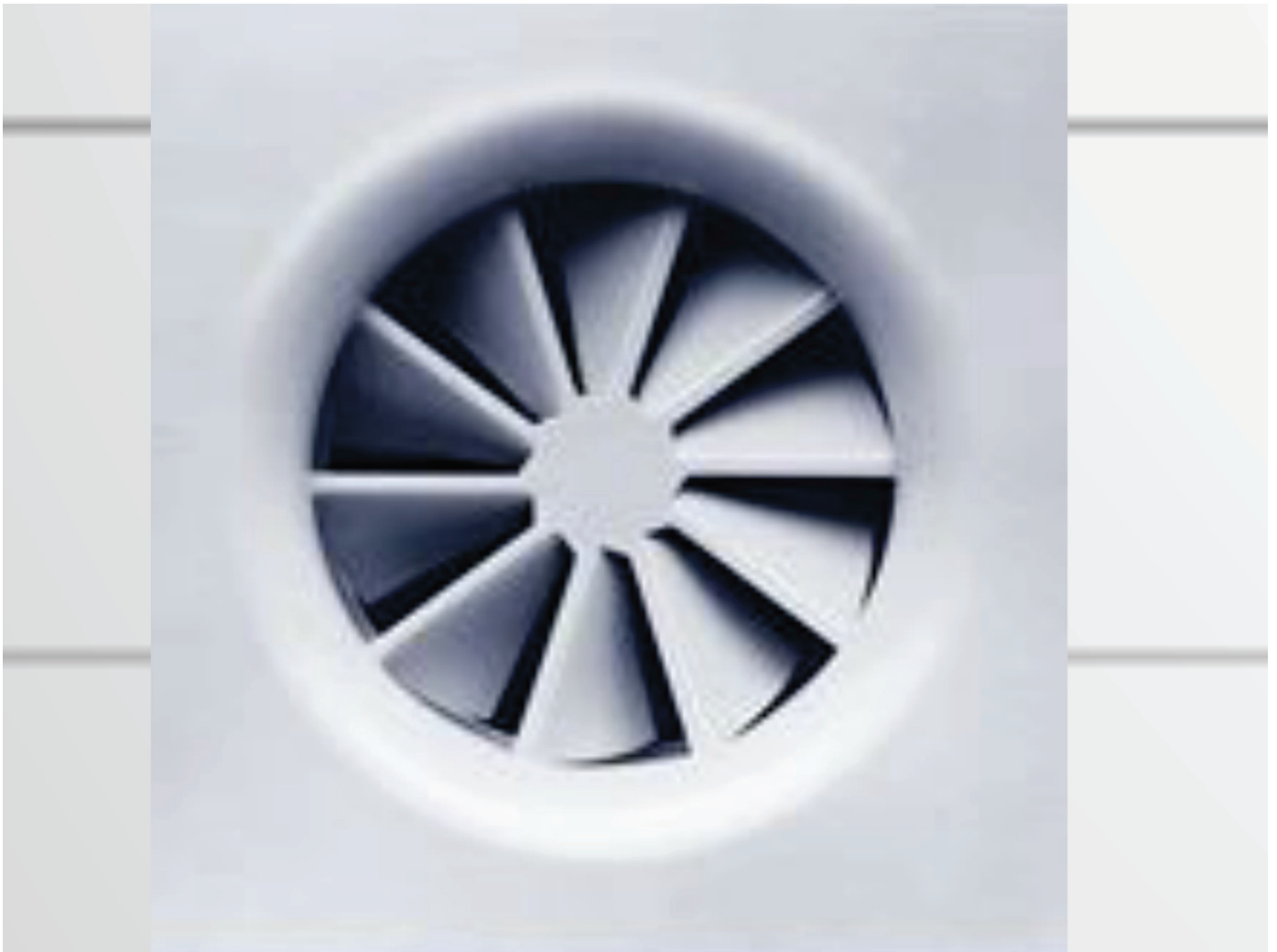




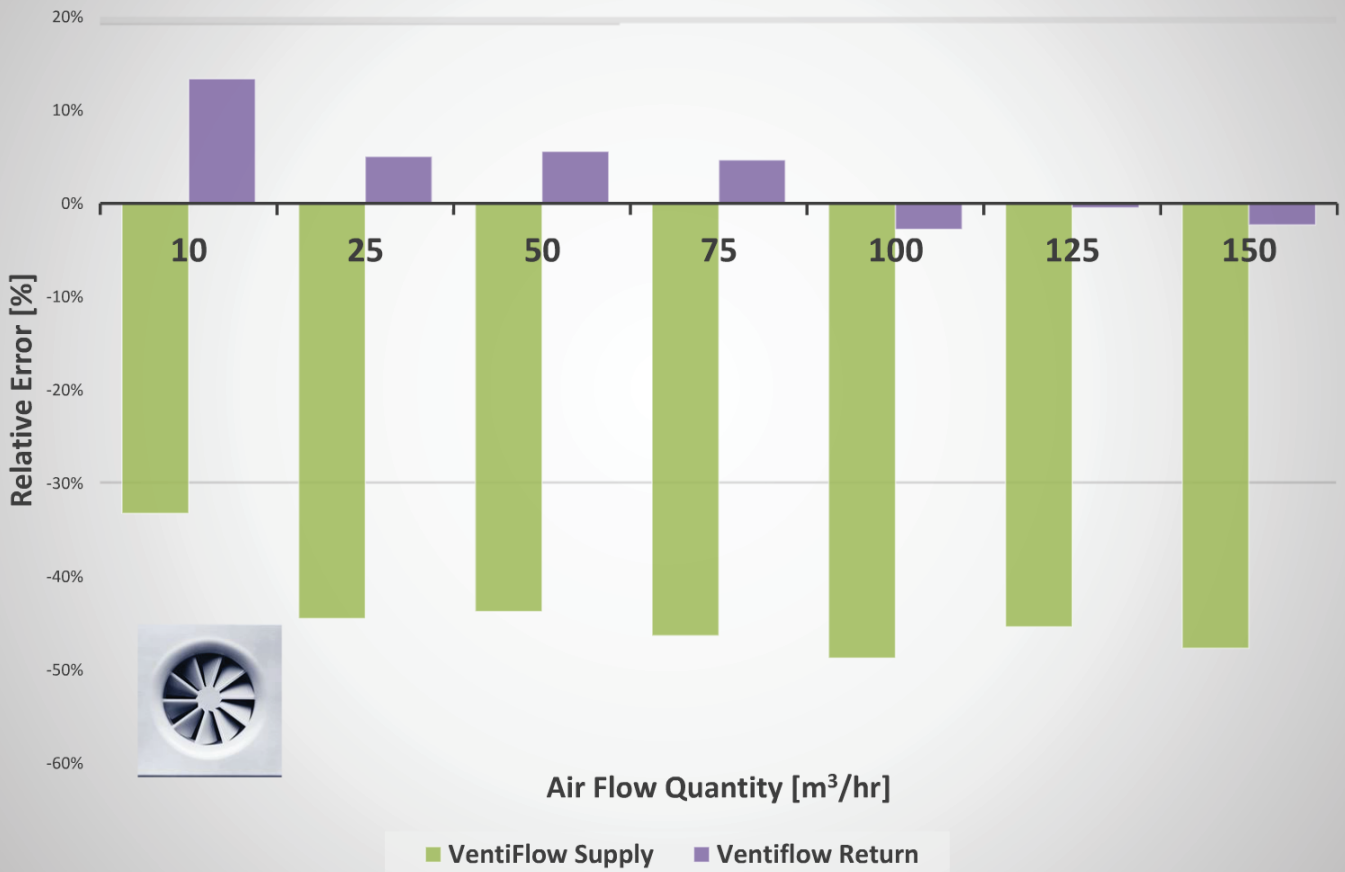
Measurement Results

- Measurements on a swirl diffuser
- High efficient - low resistance - system
- Supply and Return Flow
- Passive VentiFlow
- Active FlowFinder






Relative error in reading for VentiFlow with respect to the passive air flow quantity on a swirl diffuser for efficient systems



Summary FlowFinder MK-2

- SD card storage 
- Low energy consumption 
- Small and easy handling
- Sturdy 
- Extended range (0-850 m³/hr) 

Future Prospe

- Work on the uncertainty bud
- prEN16211 > Very interesting
- Quick measuring method, out improvements

Future Prospects

- Work on the uncertainty budget
- prEN16211 > very interesting
- Quick measuring method, other improvements

