

## Foreword

Welcome to the November 2024 edition of our bi-annual newsletter, where we share the latest updates and insights from our recent activities.

We're happy to begin with a look ahead to some key upcoming events:

- 9 December 2024 [10:00-11:30 CET]: AIVC-TightVent [webinar](#) on Building Airtightness Impact on Energy Performance (EP) Calculations
- 13 December 2024 [09:00-10:30 CET]: AIVC-TightVent [webinar](#) on Building and ductwork airtightness trends and regulations in China, Japan and New Zealand
- 1-2 April 2025: AIVC [Workshop](#) "Indoor Environmental Quality in Sustainable Buildings" in Stuttgart, Germany
- 16-17 May 2025: 14<sup>th</sup> International [BUILDAIR Symposium](#), Hannover, Germany
- 24-26 September 2025: AIVC – ASHRAE IEQ – TightVent – venticool Joint [Conference](#) in Montreal, Canada

Looking back, we're pleased to share highlights from the airtightness and ventilation inspection track at the 44<sup>th</sup> AIVC-12<sup>th</sup> TightVent-10<sup>th</sup> venticool Joint Conference, which took place in Dublin, Ireland, on 9-10 October 2024.

We are also excited to announce the latest publication in our Ventilation Information Paper (VIP) series, focusing on trends in building and ductwork airtightness in Germany. Additionally, we feature the latest product news from our partners, showcasing innovative solutions and advancements in the industry.

Please visit our [website](#), follow us on [twitter](#) and [LinkedIn](#) and [read](#) to our monthly newspaper "Energy Efficiency and Indoor Climate in Buildings" to find out more about our activities. We wish you a pleasant reading!

The TightVent team

## Feedback from the 44<sup>th</sup> AIVC-12<sup>th</sup> TightVent & 10<sup>th</sup> venticool Conference: Summary of the airtightness & ventilation systems' inspection presentations

On 9-10 October 2024, the AIVC – TightVent - venticool 2024 joint Conference "Retrofitting the Building Stock: Challenges and Opportunities for Indoor Environmental Quality", was organised by the International Network on Ventilation and Energy Performance ([INIVE](#)) on behalf of the Air Infiltration and Ventilation Centre ([AIVC](#)), the Building and Ductwork Airtightness Platform (TightVent Europe) and the international platform for ventilative cooling ([venticool](#)). The [University of Galway](#), [Maynooth University](#) and the Sustainable Energy Authority Of Ireland ([SEAI](#)) were also key organisers. This successful event brought together over 180 participants, including researchers, engineers, architects, policymakers, manufacturers, stakeholders, and international organizations from 26 countries.

The conference programme featured three parallel tracks with approximately 150 presentations across the key themes of Smart Ventilation, Indoor Air Quality (IAQ) and Health, Building & Ductwork Airtightness, and Ventilative and Resilient Cooling. A special session of "90-Second Industry Presentations", was organised to disseminate exclusive information from the event's sponsors to the conference participants, in addition to the conference exhibition.

Additionally, the conference provided a vital forum for discussions on current projects, including the [IEA EBC Annex 87](#), Energy and Indoor Environmental Quality Performance of Personalized Environmental Control Systems.

The article available [here](#) offers an overview of the main trends, ideas, and insights shared over the two-day conference, focusing particularly on building and ductwork airtightness as well as ventilation systems' inspection. The article is structured into four main themes: Building & ductwork airtightness impact and guidelines, Durability of building airtightness, Building airtightness measuring methods & Inspection of ventilation systems.



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## 24 – 26 September 2025, AIVC – ASHRAE IEQ – TightVent – venticool joint Conference, Montreal, Canada

The conference “IEQ 2025: Rising to new challenges: Connecting IEQ to a sustainable future”, organized by ASHRAE and AIVC, will be held in Montreal, Canada on 24-26 September 2025 at the Delta Hotel Marriott. The conference will also be the 13th TightVent and 11th venticool conference.

This conference provides the opportunity to learn, network and engage with IEQ professionals dedicated to advancing the fields of indoor environmental quality. Emphasis is placed on the growing understanding of occupant response to indoor environment elements (thermal, air quality, lighting and acoustics) while enhancing resilience in a changing climate. Seminars are led by experts from around the world representing AIVC, ASHRAE and many other partnering organizations.

### Topics for Papers and Seminars

- Performance Metrics: For all aspects of IEQ
- Occupant Behavior: How behavior impacts IEQ and how IEQ impacts behavior – psychological dimensions of IEQ
- Smart Sensors, Data and Controls: Sensor properties, data management, cybersecurity, applications, commissioning, equivalence
- Resilience and IEQ: Responding to climate change and disasters
- Ventilation: Mechanical, passive, natural and hybrid systems
- Air Tightness: Trends, methods and impacts
- Thermal Comfort: Dynamic approaches, health impacts and trends
- Policy and Standards: Trends, impacts, implications
- HVAC and IEQ in a post-COVID world
- Ventilation and building decarbonization

### Important dates

- Decisions on Abstracts for Conference Papers and Extended Abstracts Sent: January 6, 2025
- Registration Opens: March 7, 2025
- Papers and Extended Abstracts Due: March 10, 2025
- Paper Final Revisions Due: May 12, 2025
- Speaker Presentations Due for Commercialism Review: September 8, 2025

More information can be found at: <https://www.ashrae.org/conferences/topical-conferences/ieq-2025-conference>.

## 16-17 May 2025, Hannover – “14<sup>th</sup> International BUILDAIR Symposium”



The 14<sup>th</sup> International Buildair Symposium: “Airtight Buildings, Thermography and Ventilation Systems in Practice” will take place on May 16 and 17, 2025 in Hanover, Germany.

The event will offer a unique opportunity to find out about the latest developments and best practices, to highlight particular challenges in airtightness testing and to exchange experiences across national borders.

The conference programme will include:

- Lectures and short presentations followed by questions and discussion time
- Brief presentations of exhibitors / products (90 seconds)
- Panel discussion

### Conference topics

#### Practical measurement experience

- EN ISO 9972 and national annexes
- Opportunities of measurements during construction
- Special measurements (large buildings, zone measurements,

cold rooms, clean rooms, etc.)

- Challenges and dangers for measurement teams

### Leakages

- Detecting, measuring, evaluating, eliminating
- Leakages before renovation of existing buildings and unavoidable leakages after renovation
- How tight is tight enough?

### Renovation of existing buildings

- The optimal airtightness concept (Is there an optimal airtightness concept?)
- WTA information sheet on airtightness in existing buildings
- Challenges in quality assurance

### Products

- Product developments to ensure airtightness
- New measuring devices and evaluation programs

### Ventilation

- Social change: How can ventilation become a matter of course?
- Successful ventilation concepts for existing buildings

### Thermography

- Unusual applications on the building envelope (including supply shafts, etc.)
- Unsteady building thermography

### Conference organisers & partners

The conference is organised by the Energie- und Umweltzentrum am Deister (e.u.[z.], [www.e-u-z.de](http://www.e-u-z.de)), 2025 in close cooperation with the AIVC, INIVE and TightVent.

Other cooperation partners are the Fachverband Luftdichtheit im Bauwesen (FLiB), the Bundesverband für Angewandte Thermografie (VATH), the Bundesverband Gebäudeenergieberater Ingenieure Handwerker (GIH), the Deutsche Energieberater-Netzwerk (DEN), the IG Passivhaus and the Passivhaus Institut.

For more information please visit [www.buildair.eu](http://www.buildair.eu).

## New AIVC publications

We are happy to announce the release of a new addition to the AIVC Ventilation Information Paper (VIP) series dealing with trends in building and ductwork airtightness in various countries.

### [Ventilation Information Paper #45.13: Trends in building and ductwork airtightness in Germany](#)

Earlier publications in the series explore trends in building and ductwork airtightness across the following countries: [Estonia](#), [Spain](#), [the Czech Republic](#), [Belgium](#), [Latvia](#), [France](#), [Greece](#), [China](#), [Japan](#), [Republic of Korea](#), [New Zealand](#) & [USA](#).



**1 General introduction**  
The objective of this paper is to give an overview of building airtightness and ductwork airtightness in Germany. It also provides general information on the building stock and the construction market in Germany at present.  
The German Energy Agency (dena) shows the following information on the building market in an 800 report:  
**Residential and non-residential building stock in 2022**  
There were around 114 million residential buildings in Germany in 2022. 123 million were single-family houses, 12 million were multi-family houses and 1.5 million were non-residential houses.  
From 2012 to 2022, about 100,000 residential buildings were built per year.  
There are approximately 1 million non-residential buildings that are building energy law relevant. This figure is based on a statistical evaluation from 2019.  
The past years, about 12,000 non-residential buildings were built per year.

**2 Building airtightness**  
The main aim of this paper is to provide an overview of the current state of building airtightness in Germany. It also provides information on the building stock and the construction market in Germany at present.  
The German Energy Agency (dena) shows the following information on the building market in an 800 report:  
**Residential and non-residential building stock in 2022**  
There were around 114 million residential buildings in Germany in 2022. 123 million were single-family houses, 12 million were multi-family houses and 1.5 million were non-residential houses.  
From 2012 to 2022, about 100,000 residential buildings were built per year.  
There are approximately 1 million non-residential buildings that are building energy law relevant. This figure is based on a statistical evaluation from 2019.  
The past years, about 12,000 non-residential buildings were built per year.

Moreover, [AIVC's Technical Note no 73](#): Overview of the trends in building and ductwork airtightness in 16 countries, released in June 2024, provides an overview of the trends in building and ductwork airtightness in 16 countries around the world.

All documents are freely accessible and available for download [here](#).

## Upcoming AIVC-TightVent webinars

The Air Infiltration and Ventilation Centre (AIVC) and TightVent Europe are pleased to invite you to the upcoming webinars:

### [Building Airtightness Impact on Energy Performance \(EP\) Calculations](#)

As it is now a well-known fact that air leakage can significantly impact the

building energy performance, more and more countries are introducing requirements or recommendations on new buildings' airtightness level in their energy performance regulation. One key aspect to encourage good practice and good airtightness levels in new or retrofitted buildings is to properly include the air infiltration impact in the EP calculation. Nevertheless, for a given building and at a given point in time, an accurate calculation of the infiltration flow rate under natural operating conditions would require determining the precise distribution of leakages and pressure across the envelope which is not feasible in practice. As a result, many simplified models have been developed and are used around the world to estimate the infiltration rate for EP calculations, with different levels of accuracy. AIVC's Ventilation Information Paper n°46 "Building airtightness impact on Energy Performance (EP) calculations" describes those various methods and discusses their limits. In addition to the presentation of VIP 46, this webinar will discuss the specific applications of the regulation in Czech Republic and the United Kingdom. It will also present the equilibrium pressure model included in the EN 16798-7.

- **Date:** 9 December 2024
- **Time:** 10:00-11:30 CET
- **Speakers:** Valérie Leprince (Cerema, FR), Xiaofeng Zheng (University of Nottingham, UK), Jiri Novak (Czech Technical University in Prague, CZ)
- **Register [here](#)**

### [Building and ductwork airtightness trends and regulations in China, Japan and New Zealand](#)

A series of Ventilation Information Papers (VIPs) is being developed and published by the AIVC to present national trends and regulations on building and ductwork airtightness. This webinar will explore the building and ductwork airtightness practices in three countries: China, New Zealand, and Japan. Each nation represents a unique regulatory and construction environment, shaped by distinct climate conditions, national policies, and building practices.

In China, building airtightness standards have gradually been

developed, but ductwork airtightness is only marginally addressed, with few incentives for testing or regulation enforcement. However, as the country increases its focus on energy efficiency, there is growing recognition of the need to control duct leakage due to its impact on IAQ and energy use.

New Zealand has no national airtightness requirement but encourages airtight construction through voluntary programs and research-backed recommendations. Although building airtightness has improved, reaching an average of 4.6 ach@50Pa, ductwork airtightness remains unregulated. The country's focus is on improving building durability and energy efficiency while managing risks related to its humid climate.

Japan has advanced airtightness standards, particularly for residential buildings, with local governments offering subsidies for airtight construction. However, ductwork airtightness remains largely overlooked, reflecting limited national interest in regulating duct leakage.

This webinar will provide a comparative overview of these countries' approaches to airtightness, exploring the drivers and challenges in each setting. Join us to gain insights into airtightness practices worldwide and the evolving impact on building energy performance and IAQ.

- **Date:** 13 December 2024
- **Time:** 09:00-10:30 CET
- **Speakers:** Yan Hu (Hunan University, CN), Yoshihiro Toriumi (Tokyo Denki University, JP), Steve McNeil (BRANZ, NZ)
- **Register [here](#)**

Both webinars are **free of charge**, but registration is required.

For detailed agendas and additional information, please visit the links above

## Product news as provided by our partners

### Introducing the Solo: Retrotec's Single Channel Gauge

Retrotec is excited to announce the Solo Single Channel Manometer. This cutting-edge digital gauge is accurate and versatile, all while maintaining affordability.

The Solo utilizes the same digital sensor and filtering technology as Retrotec's DM32X and includes auto-zeroing technology for hassle-free operation.

Features:

- Auto - zeroing technology for hassle free operation.
- Adjust Time Averaging directly on the gauge. Eliminates the need to pair with an app.
- Responsive Display Screen changes directions when maneuvering from Landscape into Portrait mode.
- 19 hour continuous battery life. 2-hour fast charge via USB-C.
- Magnetized clip for convenient HVAC placement.
- Test at multiple units of measurement.
- Unmatched accuracy in the most demanding environments.

Learn more at [www.retrotec.com](http://www.retrotec.com)

Contact Retrotec EU | +31 (0) 522 282941 | [salesEU@retrotec.com](mailto:salesEU@retrotec.com)



### Groundbreaking training in leak testing: expertise for ventilation and air conditioning specialists

MEZ-TECHNIK GmbH is expanding the AIRWORKER Academy training program to include an English-language seminar on leakage testing and reporting on ductwork. The two-day seminar is aimed at specialists in the HVAC industry, from planners and installers to service technicians.

Participants will learn the legal and technical requirements for the airtightness on ductwork in a practical way, test measurement methods and create professional test reports. One highlight is the use of advanced measurement technology to determine the airtightness class.

The next training courses will take place on February 19 and 20 and, March 24 and 25 2025 at the AIRWORKER Academy in Reutlingen, Germany.

More information and registration: [www.mez-technik.de](http://www.mez-technik.de)



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