



**Volume control units**  
For optimizing air quality

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# Family business with more than 50 years of experience in air and climate technology

The Nijburg Industry Group is a Dutch family business with its own production facility, specialized in producing, supplying and installing total solutions for a healthy and comfortable indoor climate.

This is what we do for parties from the entire construction chain, from the client and consultant to installer and building management, both national and internationally.

The Nijburg Industry Group operates through three divisions: Sales, Installation and Production. Each division has their own specialism, by working together we make optimal use of the available knowledge and expertise within our company.

## Our mission

It is our mission to enhance the indoor climate of residential, commercial and industrial buildings, while maintaining comfort and environmental considerations. We believe that an optimal indoor climate boosts performance and improves the well-being of building users. No wonder our slogan is 'Good Climate Better Performance'.

## Sales division: A complete range of air technology components

The Sales Division of the Nijburg Industry Group consists of the companies Solid Air Climate Solutions, Solid Air International and Velu Klimaattechnische Groothandel. These companies offer a complete range of air technology components for residential, commercial, and industrial buildings, as well as the installation market. By providing clear service, fast delivery, and excellent after-sales service, we have become a highly valued partner in the construction industry.

## Product assortment

- Air diffusers
- Fire dampers
- Volume units
- Chilled beams
- Duct heaters/coolers
- Acoustics
- Weather louvres/penthouse louvres
- Air handling units
- Climate Ceilings
- Round ducts
- Rectangular ducts
- Residential systems
- Mounting material
- Prefab
- Insulated ducts and accessories



## Solid Air International

Our products have been successfully used in utilities, industry, residential construction, retail, education and healthcare, since 1986. We are a reliable partner for advisors and installers, and a trusted consultant for architects. Our R&D department leads the market in indoor climate solutions by developing new products and continuously improving existing products to meet evolving demands, solidifying Solid Air's position as a specialist in indoor climate solutions in The Netherlands.

Apart from the Netherlands we provide our products and services e.g. in the United Kingdom, France and Germany.

Through distributors, we are expanding our activities into additional European countries.

Important target groups are utility, industry, housing, retail, education, healthcare and data centres.



# Volume control units

A central air-handling system in a building may call for a way of subsequently controlling the climate in each room or zone. This may be necessary because the load on the various rooms may differ as a result of orientation or internal pressure to such an extent that undesirable temperature differences occur, but also because users like to have the freedom to determine the temperature of the room.

Other important factors include energy savings and optimising the air quality or for example the number of people present in a space.

## Application of volume control units

Volume control units can be used to set the desired air volume in any part of the ventilation system, either at a constant or variable air volume. The air volume is factory-set to save you configuration time. Volume control units have various uses. Their application as main control systems for air conditioning is found



### Tests

The volume control units are tested at our factory for mechanical operation and for the correct air volume settings in the minimum and maximum situations. The units are also labelled for the correct handling during transport and the logistics at the building site.

Download  
the technical  
information  
on the website



[solid-air.com/downloads-videos](https://solid-air.com/downloads-videos)

mainly in systems with a large variation in air volume. Examples include schools (classrooms), canteens, theatres and shopping centres. The key principle is that the conditioning is provided with heated or cooled air, depending on the need.

Another application is only to subsequently control the air volume with temperature controls based on water-side systems such as active chilled beams, climate ceilings, thermally activated concrete or post-heating for hot water systems.

**“Energy savings  
and optimising  
air quality play an  
important role”**



# Variable air volume units (VAV)

The volume control unit is available in both a round and a rectangular model, and single walled, or double walled with insulation. The device can be configured as a CAV unit if required.

## Type VVO

### Features:

- Seven model sizes available;
- Volume range between 26 and 4.464 m<sup>3</sup>/h nominally;
- High control accuracy;
- Suitable for low air velocities from 1 m/s;
- Diagonally integrated measuring unit;
- Independent of inlet pressure;
- Extremely low internal resistance;
- Damper blade seal: airtight class 4 in accordance with EN 1751;
- Airtightness class LUKA D (ATC 2).



**Type VVO Single-walled**  
Round VAV unit



**Type VVO Double-walled**  
Round VAV unit

## Type VRV

### Features:

- Suitable for all common duct sizes;
- Volume range up to 86.400 m<sup>3</sup>/h nominally;
- High control accuracy;
- Independent of inlet pressure;
- Extremely low internal resistance;
- Low flow noise;
- Airtightness class LUKA D (ATC 2).



**Type VRV Single-walled**  
Rectangular VAV unit



**Type VRV Double-walled**  
Rectangular VAV unit



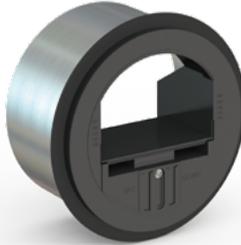
## Constant air volume units (CAV)

For certain rooms it is necessary to constantly control the air volume. Solid Air's CAV units can maintain the desired air volume in any part of the ventilation system, regardless of the prevailing pressure and without any external power supply being required. A CAV unit can be set to a predetermined value. CAV units are frequently used in buildings with chilled beams with a constant air supply.

## Type VCIR

### Features:

- Volume range between 15 and 700 m<sup>3</sup>/h.;
- Pressure range of 50-250 Pa;
- Fire retardent synthetic: fire class M1;
- To be mounted in round duct, fixed with rubber seal;
- Maximum running temperature 60 °C.



### Type VCIR

Round, mechanical CAV unit

## Type VCMH

### Features:

- Volume range up to 3.000 m<sup>3</sup>/h;
- Pressure range of 50 - 1.000 Pa;
- Seven model sizes available;
- Low internal resistance;
- Impervious to contamination;
- Can be mounted in any position;
- Adjustable over entire volume range;
- Airtightness class LUKA C (ATC 3);
- Interior temperature range: -20 to +70 °C, short term: 90 °C.



### Type VCMH Single-walled

Round CAV unit



### Type VCMH Double-walled

Round CAV unit

## Type VCMR

### Features:

- Volume range to 6.480 m<sup>3</sup>/h;
- Pressure range: 50 - 1.000 Pa;
- Seventeen model sizes available;
- Low internal resistance;
- Impervious to contamination;
- Can be mounted in any position;
- Adjustable over entire volume range;
- Airtightness class LUKA C (ATC 3);
- Interior temperature range: -20 to +70 °C, short term: 90 °C.



### Type VCMR Single-walled

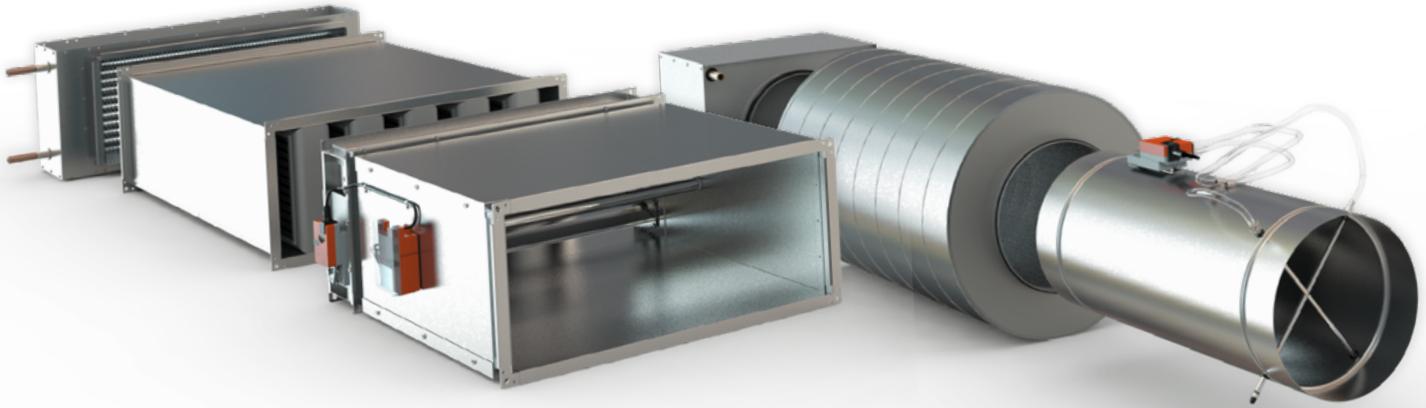
Rectangular CAV unit



### Type VCMR Double-walled

Rectangular CAV unit

More information:  
[solid-air.com](http://solid-air.com)



## 3-in-1 solution

Solid Air's 3-in-1 solution is a combination of a volume control unit, a duct heater and/or cooler and an attenuator. These solutions are used mainly for post-control in rooms.

The most common standard solutions can be operated with the VVR type. The VVR is a compact solution in which a VAV unit is combined with a duct heater and an internally fitted attenuator.

Combining several air components provides a customer-specific solution for virtually any requirement.



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**View our complete range  
of attenuators, and duct  
heaters and coolers**

## Duct heaters and duct coolers

Duct heaters and duct coolers are used in buildings in cases where the centrally generated fresh air – which has only one temperature – needs to be subsequently controlled.

The post-control can be operated per floor, zone or room. Solid Air supplies a broad range of duct heaters and duct coolers that are suitable for high and low temperature systems.



## Acoustics

Ventilation systems contain components that may cause noise, such as fans. The use of an attenuator can reduce this noise nuisance.

Attenuators can be installed as required in various parts of the ventilation system. Solid Air supplies complete attenuators as well as standalone attenuating splitters.

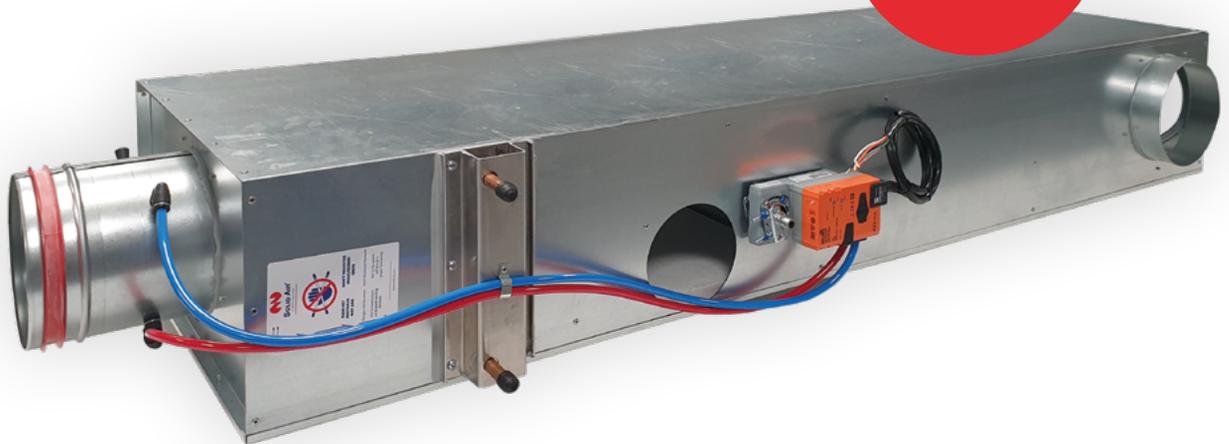


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# VAV-Induction unit

The VAV induction unit is suitable for individual climate control in rooms. The induction system achieves a greater control reach compared to a standard VAV unit. This is because the share of mixed warm room air is kept constant when the fresh air volume is reduced. This results in a higher temperature being supplied to the grid.

**New  
model**



## Type VVIS

The variable volume control unit type VVIS is suitable for room temperature and air quality control. The inducing action ensures a stable outlet pattern between the minimum and maximum flow rate. This control unit can be used in spaces with full air conditioning.

### Features of our new model:

- Volume flow 26 to 1.718 m<sup>3</sup>/h nominally;
- Minimum air flow 1 m/s;
- Five model sizes available;
- Extremely low internal resistance;
- Independent of inlet pressure;
- Control damper can close completely;
- Diagonally integrated measuring unit;
- High control accuracy;
- Extremely low radiation and air-noise level;
- Airtightness class housing LUKA D (ATC 2).



Universal control systems

## Control systems

The volume units are driven by high quality control systems. They can be based on temperature, air quality or pressure systems. We can meet the requirements of various manufacturers and communication protocols.



Compact VAV actuator

## Actuators and controllers

The VAV units are always operated by actuators that are configured for a specific situation. Model size, air-volume range, maximum and minimum position are set in our factory. The variation in air volume or pressure can be adjusted as required.

## Sensors

Solid Air supplies a programme of sensors of various suppliers. The programme includes sensors that can measure temperature and CO<sub>2</sub> levels. A combination of the two is possible as well.



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# VAV-units in government building Huis ter Heide



We were honored to make a significant contribution to a recently completed project for a government institution in Huis ter Heide. The end result is not only a visually stunning building but also one that excels in functionality and sustainability.



For this project, Solid Air provided a wide range of high-quality products essential for maintaining an optimal indoor climate and ensuring the safety of the building. Among the products supplied were outdoor diffusers, weather/penthouse louvres, fire dampers, attenuators, variable air volume systems (VAV/CAV), and reheaters. These systems are critical in supplying fresh air in the building, which is vital for creating a healthy indoor environment.

The even distribution of air throughout the various spaces was achieved by using our ceiling diffusers, while door diffusers were installed to ensure proper airflow between different areas. To further optimize

the building's climate, we installed VAV/CAV systems that regulate both airflow and temperature in different zones, ensuring that each area remains comfortable and energy-efficient. Additionally, reheaters were included to provide supplementary heating when necessary, maintaining the desired indoor temperature during colder periods.

The project's success reflects our commitment to both quality and innovation. The building now stands as a beacon of modern design, functionality, and sustainability—a project we are truly proud of. The result in Huis ter Heide is a stunning and highly efficient building that meets all expectations.

# Need advice?

Contact one of our specialists

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