

Nicoll
also leads
to serenity

Sanitary

Environment

Building



BUILDING - SANITARY - ENVIRONMENT

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with a capital of 7 683 431 € - 060 200 128 RCS Angers

an *OAliaxis* company

AIR ADMITTANCE VALVE NEW GENERATION

PERFORMANCE
with a lifetime
GUARANTEE



BUILDING
SANITARY
ENVIRONMENT



BUILDING - SANITARY - ENVIRONMENT



SANITARY SOLUTIONS

The sanitary field is an historic speciality of Nicoll and the brand is now an international benchmark for plumbers. The company has been developing systems for over 50 years, providing generations of plumbers with the tools they need to work better and faster, and to improve from one project to the next one. Whether they're working on a new-build or renovation project, plumbers have come to rely on our proven quality standards, giving them peace of mind and saving time. With our strict compliance with standards, they can be assured that our products comply fully with current regulations. What's more, with our exceptionally broad range of products, plumbers always have access to the right part. We're here to make their lives easier.

- Drainage fittings
- Acoustic drainage
- Multilayer
- Pressure PVC
- Traps and drainage for sanitary appliances
- Washing machine traps
- Sanitary gullies
- Toilet pipes and fittings
- Accessories



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REGULATION COMPLIANCE



Primary ventilation :

Internal system, which involves extending the waste water drop pipe above the interior rooms, or installing an air admittance valve inside.



EUROPEAN STANDARDISATION EN 12380 CE



The European EN 12380 standard governs the requirements, test methods and evaluation of conformity of air admittance valves for gravity systems located inside buildings, in accordance with standards EN 12056-2 and EN 12056-5.

It specifies the performance requirements of air admittance valves and the test methods used to assess their compliance with this standard.

In order to be awarded a DTA (a technical approval issued by the CSTB, as required under French regulations), a valve must bear CE marking as proof of its compliance with standard EN 12380.

The Nicoll range of valves is A1-approved under this standard⁽¹⁾.

This means that it can be placed under the overflow level of a device and is capable of operating at temperatures between -20°C and +60°C.

Air admittance valves are classified by operating temperature range and their location in relation to connected devices, as shown in the table.

Air admittance valve operating conditions and classifications

Determining factor	Range/position	Classification
Can be placed below the overflow level of connected devices	yes	A
	no	B
Temperature	from -20° to + 60°C	I
	from 0° to + 60°C	II
	from 0° to + 20°C	III

⁽¹⁾Nicoll air admittance valves (CEP4050 and CEP100) are not limited-use products. They can be installed, without restrictions, in any location where this type of product is authorised for use.



DID YOU KNOW THAT?

What is an Air Admittance Valve (AAV)? :

- An Air Admittance Valve is a device used to manage air flows in drop pipes. It helps to ventilate the network and prevents stale air reflux.
- An AAV prevents dumping problems in gravitational drainage systems by allowing air to enter when there is a depression in the water pipe. It can be used instead of external roof vents. In short, it suppresses gurgles and smells, prevents trap draining and improves flow.

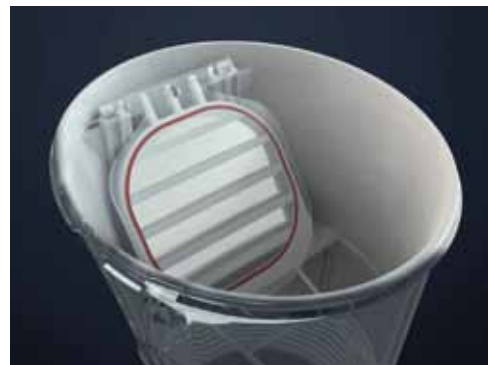


SUSTAINABLE AND COMPLETE AIRTIGHTNESS

SILICONE MEMBRANE AIRTIGHTNESS SYSTEM

This membrane is the main component of this new, patented design.

- The inner face is subject to variable pressure from the air inside the drop pipe, while the outer face is subject to stable atmospheric pressure.
- The weight and sloping position of the membrane (40°) ensure that the AAV remains fully airtight.
- When a depression occurs inside the drop pipe, the membrane deforms itself, allowing air to pass through until the internal and external pressure are equalised. When the internal pressure rises, the membrane forms an airtight seal inside the drop pipe to prevent reflux of stale air.



HOW IT WORKS

The valve uses an innovative opening/closing technology to allow air to pass through. This concept is based on **controlled deformation** of the membrane.

With this new design, there is no need for constant up and down **movements** around an axis (central or otherwise), thereby eliminating the risk of friction. The **controlled deformation** technology therefore limits fouling up and premature ageing of the product.



SILICONE MEMBRANE CHARACTERISTICS

This airtight sealing system is allowed by a silicone membrane (exclusive to Nicoll), with unique properties. The membrane has four technical characteristics which, together, create a fully airtight seal (even at extreme temperatures) :

- Flexible : the membrane moulds to the shape of its «seat», thereby preventing any potential leaks.
- Hard-wearing : the membrane is sufficiently rigid to be able to withstand high pressures.
- Anti-bacterial : the membrane prevents the formation of bacterial biofilms, which often cause fouling up in valves and can lead to a loss of airtightness.
- Resistant to frost : the Nicoll air admittance valve can be installed in attics with no additional protection required (e.g. expanded polystyrene insulation). The membrane remains fully operational, even at -20°C.



SEAL-FREE COVER AIRTIGHTNESS SYSTEM

The airtight sealing technique between the AAV cover and body is based on a widely-used and proven concept in the food industry.

The cover is fitted with a thin outer lip, which creates an airtight seal. When the cover is fastened onto the body, this thin lip rests against the internal wall of the body, forming a solid airtight seal.

This innovative airtightness system eliminates the need for a joint. It also avoids some of the potential risks associated with using a joint :

- Incorrect positioning of the joint => leak
- Ageing of the joint => leak
- Fouling up of the joint => leak
- Loss of the joint during maintenance => leak

This new system eliminates these problems, reducing the risks for future installers working on a site.



EXCEPTIONAL FLOW

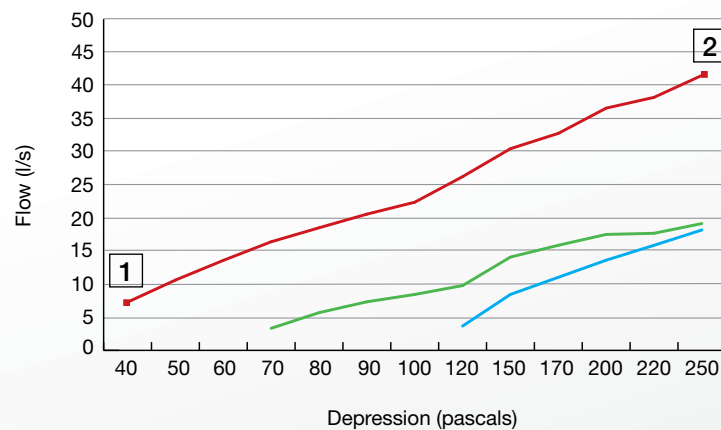


INSTALLATION IN ATTICS



DIRECT AIR FLOW

Nicoll's AAVs (both large and small versions) feature an innovative design and high air flow, based on in-depth research into their air ventilation performance (conducted by Nicoll's R&D department). The innovative shape of this Air Admittance Valve is the end result of this research. It is a truly unique innovation that breaks with traditional designs.



— Nicoll CEP100
— Nicoll SAV111
— Competitor

Analysis of valve reaction to depression:

- Nicoll new generation large format valve (CEP100),
- Nicoll old generation large format valve (SAV111),
- Competitor large format valve..

The graph shows how different valves react and the air flows that they achieve when a depression occurs inside the drainage network. Depressions in the drainage network cause gurgles and smell reflux.

1 The new AAV reacts when a depression of 40 pascals occurs (equivalent to a 4 mm water column). The Nicoll AAV reacts so quickly that even the network traps (which, in accordance with regulations, are fitted with a 5 cm water seal) remain undisturbed.

2 When a depression greater than 250 pascals occurs, the Nicoll AAV delivers a flow of more than 43 l/s, providing a quick, effective response to the problem within the network.

With its unique design, Nicoll's AAV can be installed in attics instead of a roof crossing solution (in accordance with Art 42). This has the following advantages :



Reduced installation time :

- No roof work required.
- Limited potential conflict between different professions.

No roof sealing problems :

- No risk of water infiltration through the roof where the roof crossing solution is installed.

No heat loss :

- With energy standards becoming ever stricter (low energy consumption houses, etc.), this solution eliminates the risk of heat loss through the roof.

High resistance to extreme temperatures :

- This solution can be installed in attics with no additional frost protection required (e.g. expanded polystyrene insulation). The silicon membrane is naturally resistant to frost.

Flow at least equivalent to a ventilation cowl (equivalent diameter) :

- The CEP100 (100/110 diameter) guarantees a flow of 43 l/s (100 diameter version).
- A standard roof traverse solution (100 diameter) guarantees a flow of around 36 l/s.



AIR FLOW OF 43 L/S
At the top of the drop pipe



AIR FLOW OF 11 L/S
Upstream of sanitary appliances

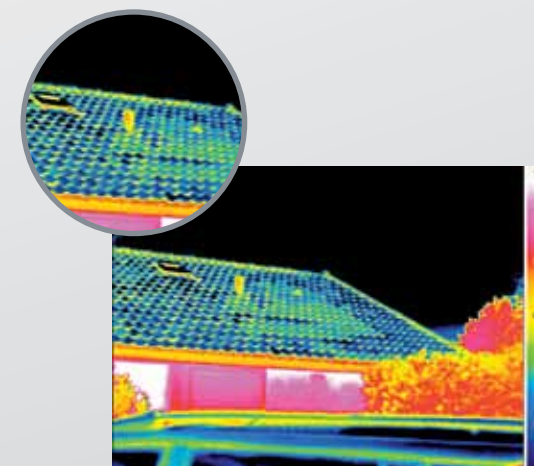


Photo courtesy of www.forum-thermographie.net



PRACTICAL AND ATTRACTIVE DESIGN

INSTALLATION UNDER THE OVERFLOW LEVEL

The new Nicoll AAV can be installed under the overflow level of a trap. This is a particularly useful option for certain «complex» installations.

This is due to its unique airtight seal system, which also makes it watertight, avoiding the risk of water leaking through the valve when placed below the overflow level of a sanitary appliance (a plugged water pipe, for example).

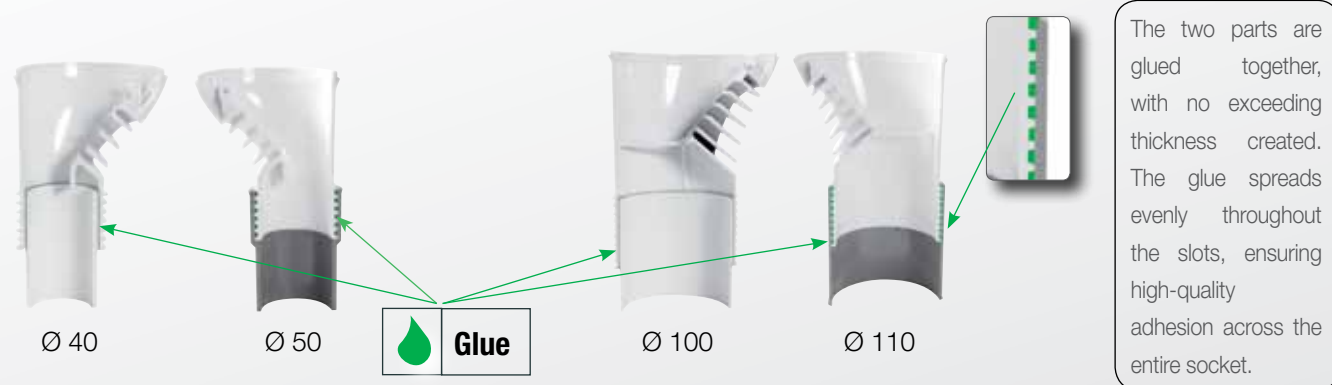


EASY ACCESS FOR MAINTENANCE

Nicoll's AAV has a removable cover, which :

- Allows access to the membrane (for inspection or maintenance).
- Allows new access to the water pipe for linkage and other maintenance work.

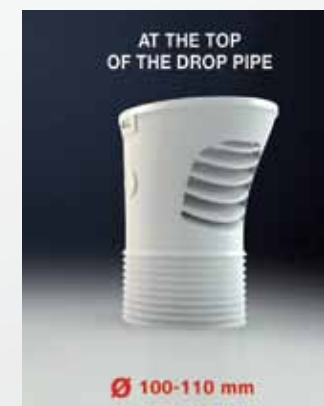
DUAL SOCKET (40/50 DIAMETER - 100/110 DIAMETER)



THE NICOLL ADVANTAGE

Attractive, clever design

- With its slim-line design, this new range can be installed in a corner.
- With its white colour, it can be installed next to other sanitary appliances.
- Its attractive design means that, for the first time, a valve can be installed in a visible location.



ADVANTAGES

- **Sustainable and complete airtightness** : fitted with an anti-bacterial, sloping membrane to prevent stagnation and condensation
- **Exceptional flow** :
 - CEP4050: 11 l/s,
 - CEP100 : 43 l/s,
 - Suppresses gurgles and smells and prevents trap draining
 - Improves flow,
 - Guarantees a higher flow than similar-sized roof crossing solutions (relates to CEP100).



- **Awarded a DTA (technical technical approval) by the CSTB** :
 - In accordance with the requirements of the French Sanitary Regulation,
 - Complies with the EN 12380 European standard.
- **Practical:**
 - Resistant to frost (to -20°C) – can be installed in attics without any risk
 - Removable cover, providing access to the network for linkage or access to the membrane
 - Can be installed under the trap level
 - Dual socket design (110 male/100 female or 40 male/50 female) avoiding the need for a reducing socket.

RANGE

Reference	ø D*	ø d	Height (H)	Length (L)	Width (w)
CEP4050	50	40	105	86	76
CEP100	110	100	190	147	132

* a socket is required for connection to the tube :
 - ø 50 - ref. M2J
 - ø 110 - ref. M2V.