

Ventient SCW-NS

Product Description

Using passive temperature perception technology, Proctor Ventient™ SCW-NS by utilizing the physical characteristics of a unique Shape Memory Alloy (SMA) does not require the use of electric power or sensors.

Without electric power, sensors or human intervention, Ventient Trickle Ventilation technology can passively manage ventilation flow dependent on ambient temperatures, optimising the benefits of ventilation without introducing air at an uncomfortable temperature

Applications

Unlike conventional systems such as operable windows or louvres, Proctor Ventient can get on with the job of providing fresh air circulation regardless of occupancy.

As part of the total ventilation system Proctor Ventient can help reduce the need for cooling in buildings and provides fresh air for educational and healthcare facilities.

Providing ventilation for rooms or spaces that can remain unoccupied for periods throughout the year, Ventient is perfect for student accommodation and hotels. Modern lifestyles mean that occupants are unable to manage purge ventilation and return home, to a stuffy environment in the evening or after a few days away. Ventient is an ideal solution for residential buildings such as modern air tight medium and high rise developments.

Natural Ventilation

Ventient devices (although unlikely just from Ventient alone) can contribute towards the total openable size of not less than 5% of the floor area of the room required to be ventilated.

Exhaust Make-up in Lieu of Supply

If it is not possible to meet the code requirements for natural ventilation, when assessing for greenstar, or where the design preference is for a specific air change rate and 24 hour provision of outside air without leaving windows open, Ventient used in conjunction with low energy, mechanical extract ventilation can provide or contribute to supply ventilation as required when calculated in accordance with AS1668.2.

General Exhaust Make-Up Air

AS1668.2 draws to the attention of designers that increased air-tightness of modern buildings requires consideration of sources of make-up air.

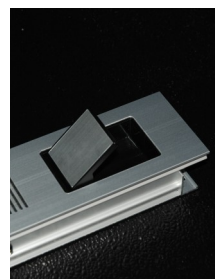
In the past there has been a reliance on leakage through historically poor facade construction. Make-up air drawn through gaps and service penetrations does not meet the requirements of Clause 2.3 within the standard. Make-up air being drawn through poorly sealed construction joints, brick cavity vents and even power outlets can lead to the loss of amenity in the enclosure.

Clause 2.3 specifies acceptable sources of outdoor air as a mechanical outdoor air supply or permanent natural ventilation openings. Ventient can provide the later option.

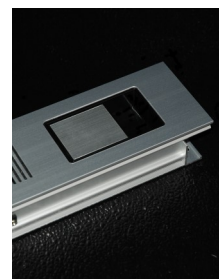
Sample Specification

Install Proctor Ventient SCW-NS trickle ventilator with shape memory allow thermal actuator into the window in accordance with the user guide

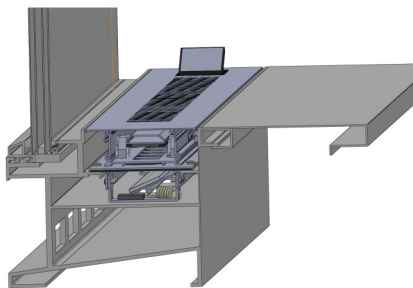
Device Length: _____ mm (L1 from figure 1)
 Cover length: L2 _____ mm & L3 _____ mm
 (see figure 1)
 Optional features: (from table 2)
 Product Code: VENTIENT SCW-NS
 Ventilation volume at $\Delta P12Pa$: (from PQ data)
 Colour: (from table 1)
 SMA Minimum Temperature: 12°C
 (other temperatures available)



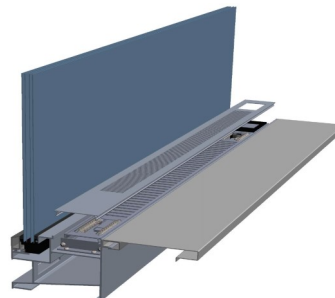
Vent Closed



Vent Open



Constant air flow dampening option



Installation and access from the interior

Ventient SCW-NS



Table 1 Performance	
Open area (A)	65cm ² - 259cm ²
Effective open area (αA)	20.7cm ² - 81.9cm ²
Air Tightness (JIS A 1516) when closed	<0.38m ³ /hr.m ² at 100Pa
Water tightness (JIS A1517) when closed	1,500Pa
Wind pressure (JIS A1515) When closed	3,600Pa
Acoustic Ratings (JIS A4706)	T-2
Standard Sizes and colours	
Minimum Length (L1)	500 mm
Maximum Length (L1)	1,500 mm
Dimensional tolerance (L1)	± 1 mm
Standard available colours for main unit in gloss or matt anodized finish.	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Silver</p>  </div> <div style="text-align: center;"> <p>Black</p>  </div> </div> <p>The removable interior face cover enables the window supplier to coat covers to match the frame.</p>	

Table 2 Optional Features	
Shape Memory Alloy (SMA) Thermal Actuator - Fully Open - Minimum Open (typically 33%) Other set point are available	>18°C <12°C
Mesh to resist vermin, insects and windblown material.	Available with max. 2mm aperture. Location depends on installation.
Air filter (average arrestance) - Type B	18%
Manual Operation - Closable - Openable	Standard Standard (Auto mode)
Intumescent fire barrier	Available option
Additional acoustic attenuation	Available option
Maintenance	Interior face cover can be removed from the interior to clean the device and filter.
Constant air flow dampening	Available damper attachments to manage high positive and negative wind loads.

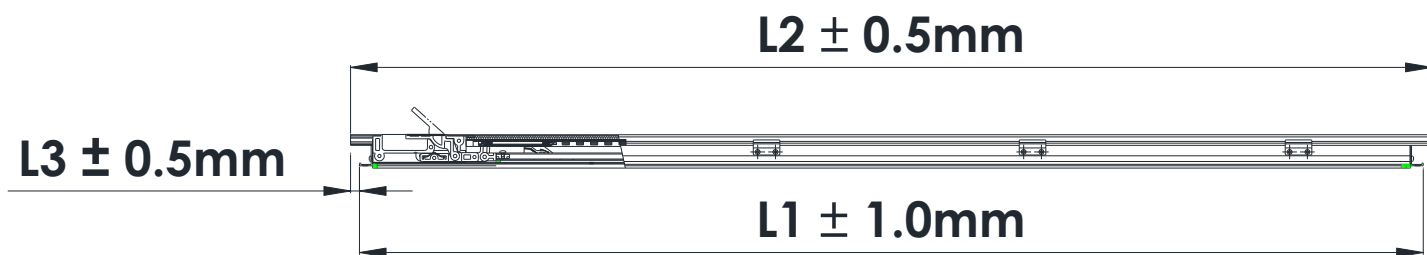


Figure 1: Ventient SCW-NS Elevation

The details supplied here are based upon good practice and currently available information. Advice regarding this product should be taken as a guide only. We reserve the right to change product specification without notice so please refer to our website for the latest version of this document. Please contact us to discuss your project and any technical enquires. For further performance details and installation requirements, please refer to the PQ data sheet and product user guide.

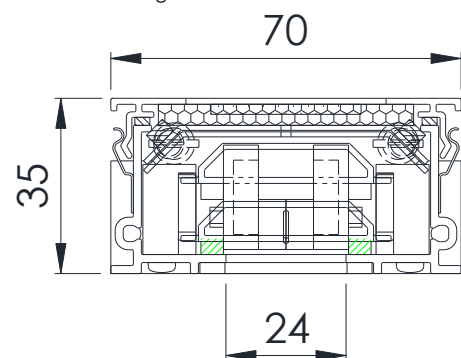


Figure 2: Ventient SCW-NS Cross Section

Ventient SCW-NS

Length (mm)	Ventilation Open Area cm ²	Fully Open (with filter)				
		Effective Open Area (αA) cm ²	Ventilation Volume (Q) m ³ /hr		Ventilation Volume (Q) l/s	
			$\Delta P = 12 \text{ Pa}$		$\Delta P = 12 \text{ Pa}$	
500	65.0	20.7	34.4	30.5 ($\Delta P/9.8$) ^{0.59}	9.6	8.5 ($\Delta P/9.8$) ^{0.59}
600	86.0	26.8	44.1	39.4 ($\Delta P/9.8$) ^{0.56}	12.3	10.9 ($\Delta P/9.8$) ^{0.56}
700	108.0	32.8	54.1	48.3 ($\Delta P/9.8$) ^{0.56}	15.0	13.4 ($\Delta P/9.8$) ^{0.56}
800	130.0	38.8	64.0	57.1 ($\Delta P/9.8$) ^{0.56}	17.8	15.9 ($\Delta P/9.8$) ^{0.56}
900	151.0	44.8	73.9	66.0 ($\Delta P/9.8$) ^{0.56}	20.5	18.3 ($\Delta P/9.8$) ^{0.56}
1,000	173.0	50.8	83.9	74.9 ($\Delta P/9.8$) ^{0.56}	23.3	20.8 ($\Delta P/9.8$) ^{0.56}
1,100	194.0	56.9	93.2	83.8 ($\Delta P/9.8$) ^{0.53}	25.9	23.3 ($\Delta P/9.8$) ^{0.53}
1,200	216.0	62.9	103.1	92.6 ($\Delta P/9.8$) ^{0.53}	28.6	25.7 ($\Delta P/9.8$) ^{0.53}
1,300	238.0	68.9	113.0	101.5 ($\Delta P/9.8$) ^{0.53}	31.4	28.2 ($\Delta P/9.8$) ^{0.53}
1,400	259.0	74.9	122.9	110.4 ($\Delta P/9.8$) ^{0.53}	34.1	30.7 ($\Delta P/9.8$) ^{0.53}
1,500	259.0	81.0	132.7	119.2 ($\Delta P/9.8$) ^{0.53}	36.9	33.1 ($\Delta P/9.8$) ^{0.53}

Length (mm)	Ventilation Open Area cm ²	Fully Open (without filter)				
		Effective Open Area (αA) cm ²	Ventilation Volume (Q) m ³ /hr		Ventilation Volume (Q) l/s	
			$\Delta P = 12 \text{ Pa}$		$\Delta P = 12 \text{ Pa}$	
500	65.0	23.2	38.1	34.1 ($\Delta P/9.8$) ^{0.56}	10.6	9.5 ($\Delta P/9.8$) ^{0.56}
600	86.0	29.0	47.8	42.7 ($\Delta P/9.8$) ^{0.56}	13.3	11.9 ($\Delta P/9.8$) ^{0.56}
700	108.0	34.9	57.5	51.3 ($\Delta P/9.8$) ^{0.56}	16.0	14.3 ($\Delta P/9.8$) ^{0.56}
800	130.0	40.8	66.8	60.0 ($\Delta P/9.8$) ^{0.53}	18.5	16.7 ($\Delta P/9.8$) ^{0.53}
900	151.0	46.7	76.4	68.6 ($\Delta P/9.8$) ^{0.53}	21.2	19.1 ($\Delta P/9.8$) ^{0.53}
1,000	173.0	52.5	86.0	77.3 ($\Delta P/9.8$) ^{0.53}	23.9	21.5 ($\Delta P/9.8$) ^{0.53}
1,100	194.0	58.4	95.6	85.9 ($\Delta P/9.8$) ^{0.53}	26.6	23.9 ($\Delta P/9.8$) ^{0.53}
1,200	216.0	64.3	105.2	94.5 ($\Delta P/9.8$) ^{0.53}	29.2	26.3 ($\Delta P/9.8$) ^{0.53}
1,300	238.0	70.2	114.2	103.2 ($\Delta P/9.8$) ^{0.50}	31.7	28.7 ($\Delta P/9.8$) ^{0.50}
1,400	259.0	76.0	123.7	111.8 ($\Delta P/9.8$) ^{0.50}	34.4	31.1 ($\Delta P/9.8$) ^{0.50}
1,500	259.0	81.9	133.3	120.5 ($\Delta P/9.8$) ^{0.50}	37.0	33.5 ($\Delta P/9.8$) ^{0.50}

NOTES

1. The position with the curtain wall or window will impact on air flow performance depending on the air flow pathway, the inclusion of acoustic treatment, intumescent fire barrier materials, exterior ember and insect screens and constant air flow dampening. Please contact PGA for air flow data when the Ventient SCW-NS is in the 33% open position or if another configuration is required.
2. Effective open area (αA) is calculated in-house in Japan using apparatus conforming to JISC 9603.
3. The use of local air cleaning devices in a room can reduce minimum outdoor air requirements (as per AS1668.2 Appendix D) thus reducing required outdoor air quantities via the trickle vent.
4. Seek advice from gas appliance suppliers regarding use of open flued appliances in any enclosures subject to negative pressures.
5. Advice relating specifically to health care circumstances should be sought for applications intended for health care facilities.
6. Please consult the user guide for instructions on filter access and maintenance.
7. Where there are specific noise and vibration isolation requirements, seek advice from an acoustic and vibration consultant. Further data is available.
8. The designer must consider the position of the openings with respect to contamination, wind effects and uniformity of distribution as outlined in AS1668.2