

## EN12101-2:2003 Tested Solutions

# Manufacturers Guide

### SENIORS ARCHITECTURAL SYSTEMS SPW600 AOV SE Controls NSHEV

It is a mandatory requirement under the Construction Products Regulations (*Regulation (EU) No 305/2011*) for Natural Smoke and Heat Exhaust Ventilators (NSHEVs) to be UKCA certified as conforming to the Harmonised Standard EN12101-2:2003.

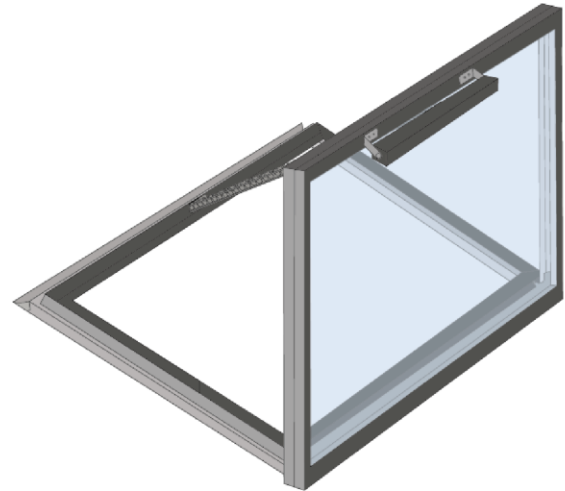
Senior Architectural Systems and SE Controls have collaborated on an extensive test and certification program with IFCC, a UK Notified Body (Notified Body Nr. 1720) to meet this requirement and ensure a seamless façade installation and performance can be provided.

#### Manufacturing

Prior to manufacturing an NSHEV it is important to seek guidance from SE Controls to ensure the NSHEV is manufactured under an annually audited EN12101-2 System 1 Factory Production Control process.

It is mandatory this is in place before manufacturing. Please register your interest to [info@secontrols.com](mailto:info@secontrols.com)

If an NSHEV is not manufactured under an EN12101-2 System 1 Factory Production Control process, the product will not be certifiable by SE Controls.



### Tested Solution



The following **SENIORS ARCHITECTURAL SYSTEMS** frame systems can be **UKCA certified** under SE Controls' Tested Solutions program:

#### Frame System

SAS SPW600 AOV

#### Applications (Open Out)

Side Hung, Bottom Hung, Top Hung

# 1. Certification

## 1.1 Essential Characteristics

Essential Characteristics declared on the SE Controls NSHEV Declaration of Performance (DoP) as defined by EN12101-2:2003 Annex ZA.1.

CCP 1720-CPR-0178		
Essential Characteristics	Clauses in This European Standard	Mandated Level(s) or Class(es)
Nominal Activation Conditions/sensitivity	4.1 4.2	b) 24V dc.
Response relay (Time relay)	7.1.2	<60s
Operational Reliability	7.1 7.4	Re 1000 + 10000 Dual Purpose NPD Single Chain WL A 1250 Twin Chain Only
Effectiveness of smoke/hot gas extraction	6.	Pass
Aerodynamic free area	6.	Pass
Performance parameters under fire conditions	7.5	B300
Resistance to fire - Mechanical stability	7.5	B300
Ability to open under environmental conditions	7.2 7.3	SL(0) T(00)
Fire reaction	7.5.2.1	NPD

“PASS”; Each NSHEV will have a specific aerodynamic free area based upon its dimensions, opening angle and applicable coefficient of discharge (Cv) of between 0.31 and 0.62.

## 1.2 Factory Production Control

The vent is manufactured, the actuator installed and the NSHEV completed under SE Controls' System 1 Factory Production Control (FPC) process, audited by the Approved Body, IFCC in accordance with the requirements of the Construction Products Regulation (EU) No 305/2011 and EN12101-2:2003 product standard.

The Certificate of Constancy of Performance (CoCoP) issued by IFCC and Declaration of Performance (DoP) issued by SE Controls confirm the audited system 1 FPC process is in place.

The NSHEV is certified and placed upon the market by SE Controls in the capacity of the manufacturer.

## 2. SENIORS SPW600 AOV SE Controls NSHEV Certifiable Parameters

### 2.1 Seniors SPW600 AOV with BiFold Door Hinge and Heavy Duty Sash

Orientation	Max. Outer Frame Width	Max. Outer Frame Height	Min. Outer Frame Width	Min. Outer Frame Height	Max. Outer Frame Weight	Hinges	Actuator
<b>Side Hung</b>	1200mm	1500mm	500mm	685mm	60Kg	PURA764HDB	SECO Ni 24 40 Actuator Single
<b>Side Hung</b>	1200mm	2500mm	500mm	1350mm	120Kg	PURA764HDB	SECO Ni 24 40 Actuator Twin
<b>Top Hung</b>	1500mm	1200mm	685mm	500mm	60Kg	PURA764HDB	SECO Ni 24 40 Actuator Single
<b>Top Hung</b>	2500mm	1200mm	1350mm	500mm	120Kg	PURA764HDB	SECO Ni 24 40 Actuator Twin
<b>Bottom Hung</b>	1500mm	1200mm	685mm	500mm	60Kg	PURA764HDB	SECO Ni 24 40 Actuator Single
<b>Bottom Hung</b>	2500mm	1200mm	1350mm	500mm	120Kg	PURA764HDB	SECO Ni 24 40 Actuator Twin

Any make up of double-glazed unit or triple-glazed unit can be assessed providing the weight of the vent remains within maximum weight limitation stated above

Infill panels must have minimum classification certificates for combustibility and achieve Class A2,S1-d0 under EN13501-1. The panels must also be compatible with the System Company profiles (glazing clips etc.). Unless specifically tested as a combination, Reaction to Fire will be declared as NPD on the Declaration of Performance. Please contact [Info@secontrols.com](mailto:Info@secontrols.com) for more information.

## 2.2 Sash/Frame Combinations

Frame Reference	Sash Reference	Prep Detail Reference (Single Chain)	Prep Detail Reference (Twin Chain)
SPW60102	SPW6041040	SEF_2395	SEF_2396
SPW60106	SPW6041040	SEF_2477	SEF_2482
SPW60506	SPW6041040	SEF_2429	SEF_2432
SPW66902	SPW6041040	SEF_2431	SEF_2434
SPW605043	SPW6041040	SEF_2430	SEF_2433

**Contact Senior Architectural Systems for access to their technical manual.**

**The information provided in this document must be used in conjunction with Senior Architectural Systems SPW600 AOV Technical Manual.**

## 3. System Design and Installation Considerations

### 3.1 Free Area

The free area essential characteristic of an NSHEV is declared on the Declaration of Performance as "Aerodynamic Free Area". Often building codes do not specify aerodynamic free areas, but instead require a Geometric Free Area (e.g., 1.5m<sup>2</sup>). The two methods should not be confused.

Refer to the applicable design standard BS 9991:2024 (Section 20.1. Table 3 - Summary of Smoke Control Provisions)

**Top Of stair Vent for a building below 11 meters tall: 0.7m<sup>2</sup> (Aerodynamic Free Area)**

**Top Of stair Vent for a building above 11 meters tall: 0.7m<sup>2</sup> (Aerodynamic Free Area)**

**Lobby / Corridor vent for a building above 11 meters tall: 0.9m<sup>2</sup> (Aerodynamic Free Area)**

### 3.2 Controls

NSHEVs must be operated by a compatible EN12101-10 compliant control system; SE Controls recommends its OS series of control systems.

### 3.3 Safety: Entrapment Protection

Consideration should be given to the installation of suitable measures to mitigate the risks of entrapment.

NSHEVs should be closed/ reset via a local Manual Control Point (MCP) with a 'biased off principle\*', or alternative safety measures/ operational procedures should be considered.

\*Smoke Control Association: Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (Flats and Maisonettes) Revision 3.1:

### 3.4 Safety: Fall Restraint

Consideration should be given to the installation of suitable measures to mitigate the risks of falling through an NSHEV.

For advice on additional window restraint options, contact SE Controls.

### 3.5 Installation & Maintenance

A smoke ventilation system should be designed, installed and maintained by a suitably competent and trained smoke ventilation specialist.

## 4. Support

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