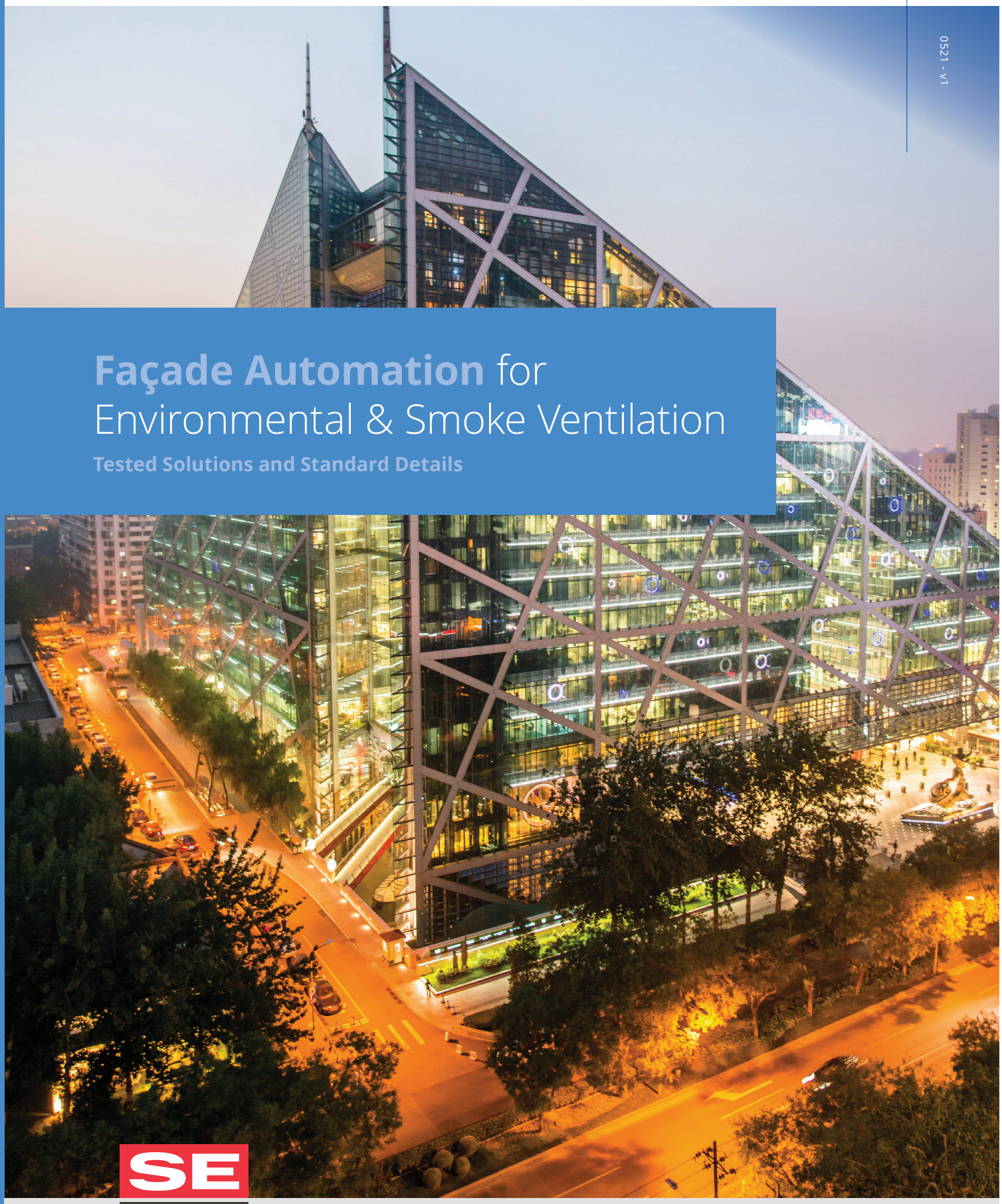
0521 - v1



Façade Automation for Environmental & Smoke Ventilation

Tested Solutions and Standard Details

SE CONTROLS

Duraflex

The information in this document is correct at the time of issue, however is subject to change.
SE Controls will contact you when a new version becomes available for download.

Contents

Introduction

Construction Products Regulation and CE Marking.

This document is designed as a technical reference for the appropriate design guides, best practice and legislation applicable for the use in façade automation for environmental and smoke ventilation.

Standard Installation details are included for all standard profiles incorporating SE Controls' exclusive range of SECO N actuators into window profiles.

Global Presence

Whilst our roots are firmly in the UK, we are a truly international business.

- Supply, Installation and Commissioning
- Maintenance
- Over 150 Employees
- Online Technical Teams
- UK Manufacturer

Regional Offices in:

SE Controls Asia Pacific (SECAP)
Hong Kong
(Established 2007)

SE Controls Africa (SECAF)
Durban
(Established 2009)

SE Controls India (SECIN)
Chennai
(Established 2011)

SE Controls Middle East (SECME)
United Arab Emirates
(Established 2012)

SE Controls

SE Controls is a specialist contractor providing a complete solution for both smoke and adaptive environmental ventilation solutions via façade and building envelope automation.

With over 35 years experience within the façade automation industry SE Controls offer complete turnkey solutions from design and manufacture to installation, commissioning and on-going maintenance, throughout the lifetime of the building.

Uniquely, SE Controls are members of both FETA (The Smoke Control Association) and the CIBSE Natural Ventilation Group, which means our customers can benefit from qualified advice and technical support that is relevant to current standards and design guides for both smoke and environmental ventilation. SE Controls are longstanding and leading participants of the CEN Technical Committee Working Groups responsible for producing European Standards.

Our products and systems are incorporated into all sectors of the construction industry for both new build and refurbishment projects.

The SE Controls core product range is designed, manufactured and rigorously tested in the UK to meet all required European standards. Continual reinvestment into the infrastructure and product development has kept SE Controls at the forefront of the industry.

Made in Britain

SE Controls is a member of the national 'Made in Britain' initiative that recognises and promotes British manufacturing and has had a production base in the UK for more than 15 years.


SMOKE
VENTS
POWER
ACTIVATED
FAULT
OPEN
RESET
PULL


NVlogic

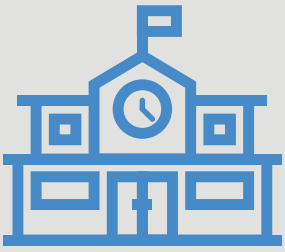

SE
CONTROLS
secontrols.com
OS2 Controller

SE Controls **Sectors**

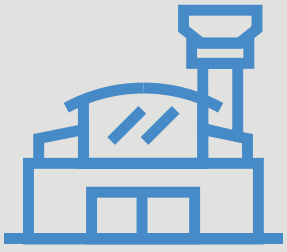
RESIDENTIAL

COMMERCIAL

HEALTH



EDUCATION



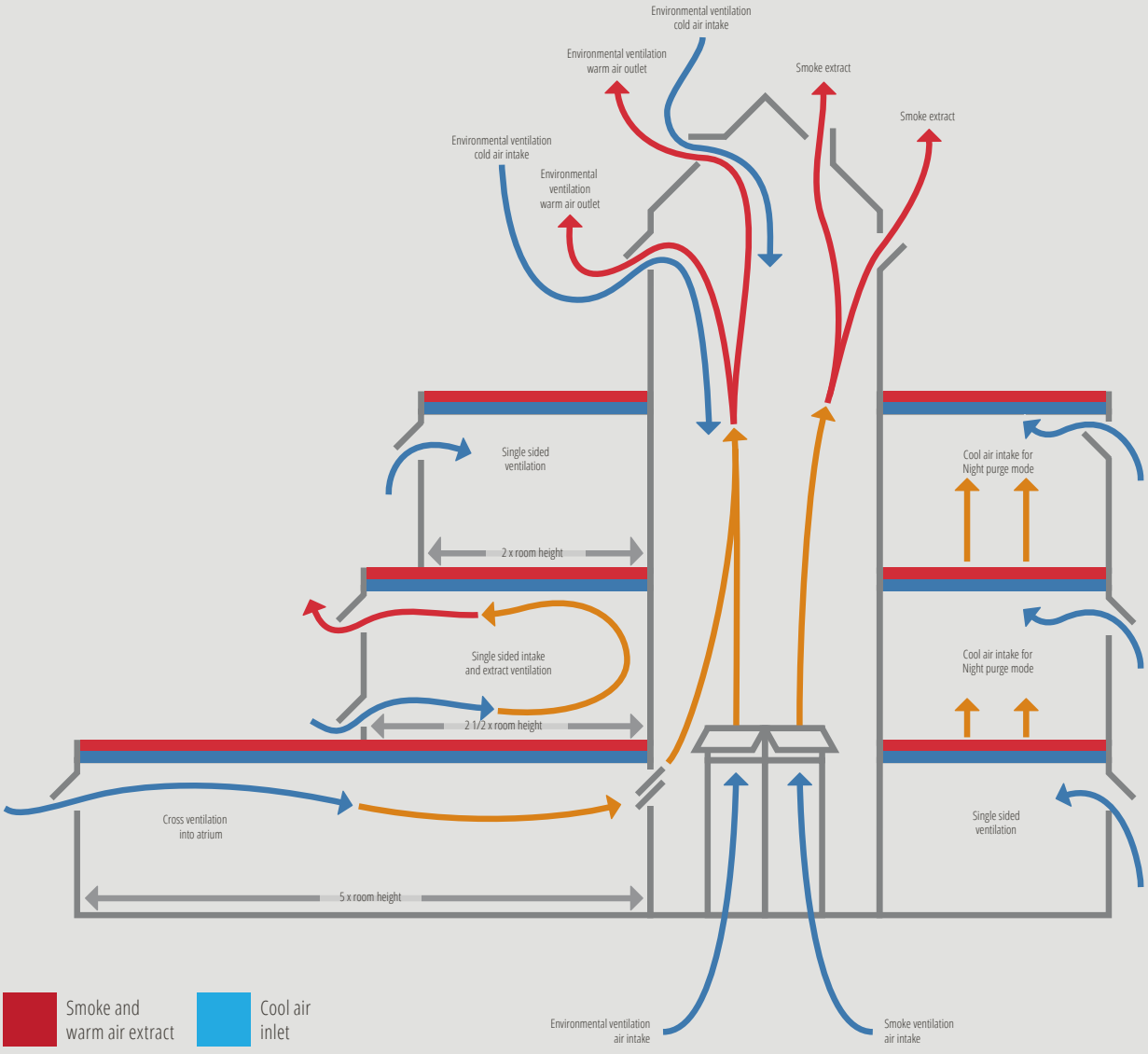
INFRASTRUCTURE

RETAIL

General Principles of **Airflow**

The direction of airflow or smoke flow is an important factor when selecting a suitable vent type.

Basic principles of airflow relative to external and internal temperatures and pressures will determine the optimum solution. As well as design guidance and best practice, regulations dictate the hinge arrangements.



Regulations & **Design** Guides

Construction Product **Legislation** Hierarchy

1. Construction Products Regulation

From 1st July 2013 the Construction Product Directive (CPD) was replaced with the Construction Products Regulation (CPR) and became mandatory, and therefore a legal requirement for manufacturers to draw up a Declaration of Performance and apply CE marking to any construction products which is covered by a harmonised European standard.

This is a major change, as affixing the CE marking under the provisions of the CPD was previously voluntary in the UK.

All hENs under the CPR include an Annex (termed Annex ZA) which lists the regulated requirements according to a mandate issued to CEN or CENELEC by the European Commission and the clauses in the standard in which they are addressed. Annex ZA.1 in the hEN becomes a checklist for CE marking for which the manufacturer can see all the mandatory requirements for the product and how it can be met.

2. Building Regulations

Building regulations are minimum standards for design, construction and alterations to virtually every building. They are developed by the Government and approved by Parliament.

3. Approved Documents

Approved documents provide guidance on ways to meet the building regulations and contain practical examples plus solutions on how to achieve compliance and should be read in conjunction with the regulations to provide clarity.

4. Design Guides

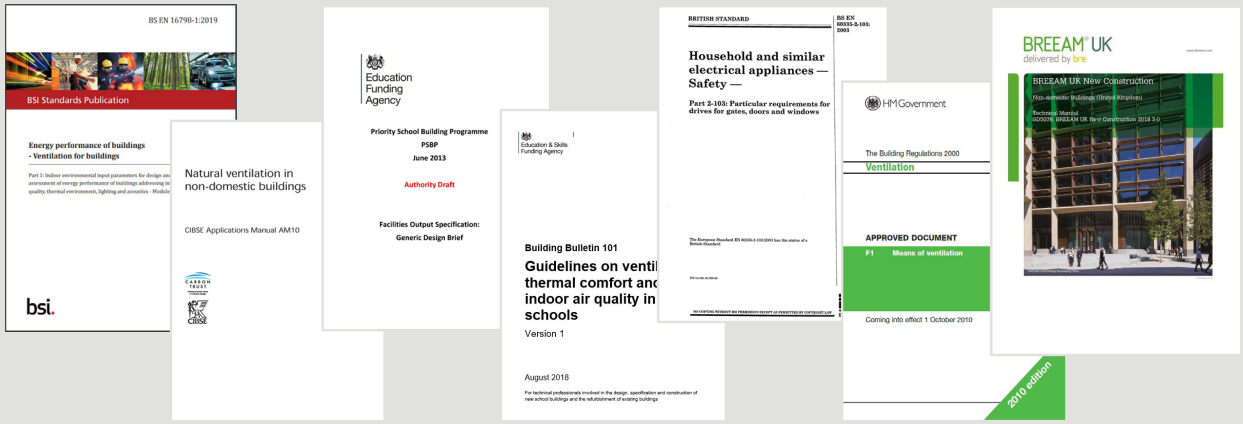
Design guides offer additional assistance in achieving regulatory requirements. Often produced by professional trade groups or associations within specialist field.

Environmental Ventilation

Environmental Ventilation

Regulations and Design Guides:

Document	Content	Date
Building Regulations 2010	Building regulations are minimum standards for design, construction and alterations to virtually every building. They are developed by the government and approved by Parliament.	2010
Approved Document F	Building regulation in England for the ventilation requirements to maintain indoor air quality.	Oct 2010 incorporating 2013 amends
Approved Document K	Building regulation in England covering the buildings users protection from falling, collision and impact in and around the building.	Jan 2013
Building Bulletin 101	Guidelines on ventilation, thermal comfort and indoor air quality in schools	Aug 2018
BS EN 60335-2-103:2015	Safety. Particular requirements for drives for gates, doors and windows	Jan 2015
CIBSE Guide AM10	Natural Ventilation in non-domestic buildings	Sep 2005
BREEAM	Non-Domestic Buildings Technical Manual	2018
CIBSE TM52 Guide	The Limits of Thermal Comfort: Avoiding Overheating in European Buildings	Oct 2013
BS EN 16798-1:2019	Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics	May 2019



Smoke Ventilation

Smoke Ventilation

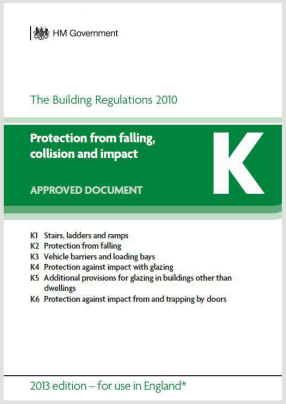
Regulations and Design Guides:

Document	Content	Date
Building Regulations 2010	Building regulations are minimum standards for design, construction and alterations to virtually every building. They are developed by the government and approved by Parliament	2010
Construction Products Regulation	Application of CE mark to any construction product covered by a harmonised European standard	Jul 2013
Approved Document B Vol 1	Fire Safety: Dwellings	2019 edition
Approved Document B Vol 2	Fire Safety: Buildings other than Dwellings	2019 edition
BS 7346-8:2013	Components for smoke control systems. Code of practice for planning, design, installation, commissioning and maintenance	Dec 2013
BS EN 9999: 2017	Code of practice for fire safety in the design, management and use of buildings	Feb 2017
BS EN 9991: 2015	Fire safety in the design, management and use of residential buildings. Code of practice	Oct 2015
BS EN 12101-2:2003	Smoke and heat control systems. Natural smoke and heat exhaust ventilators	2003
Regulatory Reform (Fire Safety) Order 2005	Statutory law covering general fire safety in England and Wales	2005
Smoke Control Association	Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (Flats & Maisonettes) Rev 2	Oct 2016

Security and Safety Standards, Regulations and Schemes

Regulation Guides:

Document	Content	Date
Building Regulations 2010	Building regulations are minimum standards for design, construction and alterations to virtually every building. They are developed by the government and approved by Parliament.	2010
Approved Document K	Protection from falling, collision and impact	2013
Approved Document Q	Security - Dwellings	2015
PAS24:2016	Enhanced security performance requirements for doorsets and windows in the UK.	2016



To meet the requirements of both Approved Document Q and SBD the vent must be tested to PAS 24 and be resistant to an external force of 3000N. The SECO N actuator has successfully passed this test, providing 4000N per locking point. An audited process is required to certify the vent to PAS 24, whereby the locking point location must be replicated in every different vent width, relative to its position in the test. In accordance with the requirements for SBD within schools, the SECO N range of actuators can also give a signal to advise that a vent is open.

Design Guidance
Selection Process

Is the application for Smoke or Environmental Ventilation?

Smoke

Building:
High Rise Residential

Typical Free Area Methodology:
Approved Document B
BS9991
SCA Guidance Document

Building:
Non-Residential

Typical Free Area Methodology:
BS9999
(Incorporating all previous BS5588 Series)

Environmental

Building:
Schools

Effective Area:
Building Bulletin 101
Priority Schools Building Programme

Building:
Other

Effective Area:
Approved Document F
CIBSE Guide AM10

There are generally three methods to measure free area through a vent which are applied relative to the building type and the application (smoke or environmental ventilation).

In all applications, be aware of obstructions such as reveals, recesses, side walls etc., and of course other vents.

All calculations should be submitted for approval by the Design Team.

Free Area Calculations

Geometric Free Area Calculation for High Rise Residential

Smoke Ventilation

The measurement of the free area of a vent is defined in Appendix C to Approved Document B (ADB) 2019.

The total unobstructed cross sectional area, measured in plane where the area is at a minimum and at right angles to the direction of air flow (as shown in the diagram on the right).

Generally 1.0m² geometric free area is required for head of stair and 1.5m² for end of corridor vents however each project will have its own design. Aerodynamic free area calculation is also allowed under Approved Document B.

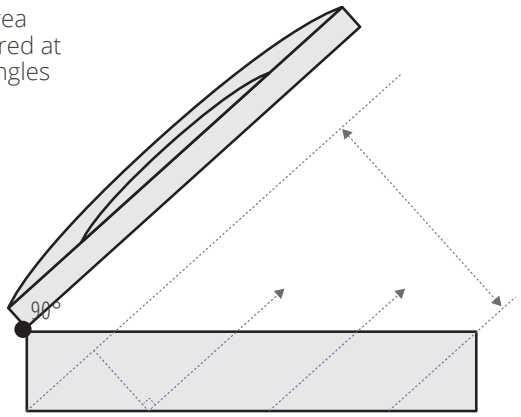
The above two top images show how Approved Document B describes how you measure free area, but they do not illustrate how this is interpreted for a window.

The image at the bottom shows a window interpretation of Approved Document B Diagram D7 as a bottom hung or side hung smoke vent.

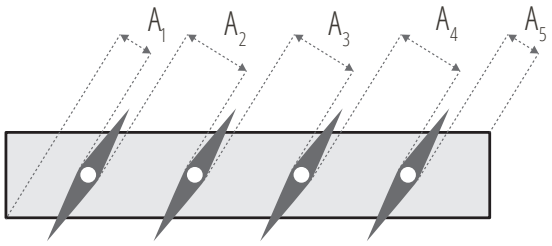
There are documents in existence produced by the Smoke Control Association that seek to give clarity on how this is measured which typically results in a double stacked bottom hung open out or side hung solution, however the ultimate regulation is ADB.

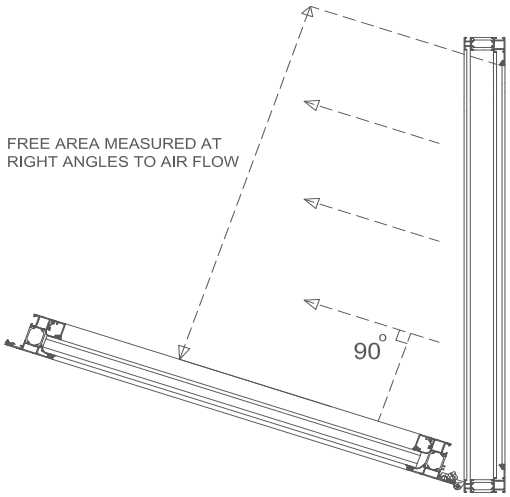
Free area calculations should be submitted for approval to an approved Inspector to be assessed for ADB compliance.

Free area measured at right angles



Free area for louvered vent = $A_1 + A_2 + A_3 + A_4 + A_5$



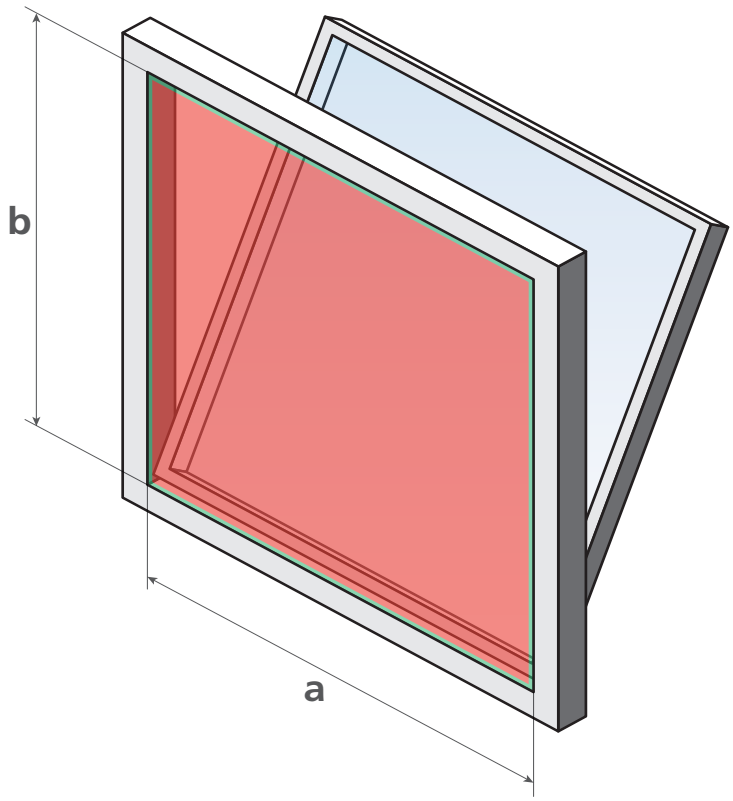


Aerodynamic **Free Area Calculation**

Smoke Ventilation

The internal throat area a x b (Av) is multiplied by the efficiency factor or co-efficient of discharge (Cv) of the vent which is determined by the opening angle.

The opening angle of the vent dictates the efficiency factors achieved, generally 0.3-0.6.



Internal Throat Area:

a x b = maximum
geometric area (Av)
x co-efficient value of vent (Cv).

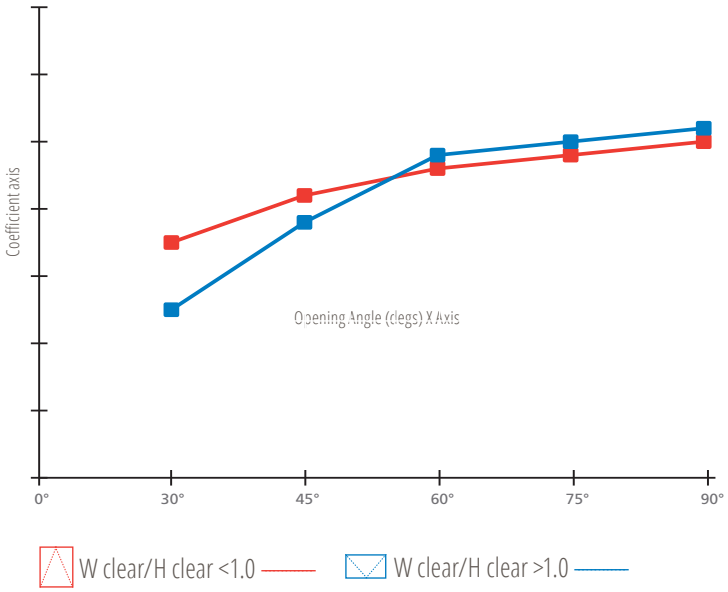
The internal throat is the inner most clear dimensions of the vent.

Aerodynamic Free Area calculations are often used for non-residential life safety means of escape applications such as atria intake and extract.

It can also be used as an alternative to Geometric Free Area in High Rise Residential applications as stated in Approved Document B.

Typical Example of Aerodynamic Free Area Co-efficient

This information is only available if an aerodynamic test is carried out. Generally 30-60% efficiency factors are acheived dependent upon the opening angle. **Assumed Co-efficient values must not be used or transferred from one system to another.**



The different results are relative to the aspect ratio of the vent width / height.

An example of how the aerodynamic calculation works:

Divide the vent width / height to ascertain the correct aspect ratio. Measure the internal throat area of the vent to confirm the maximum geometric free area (Av). Choose the required stroke length for the actuator and establish the opening angle. In accordance with the table, confirm the co-efficient value at that degree of opening. Multiply the maximum geometric area by the coefficient value (Cv) to give the Aerodynamic value (Aa).

Aa = Av x Cv

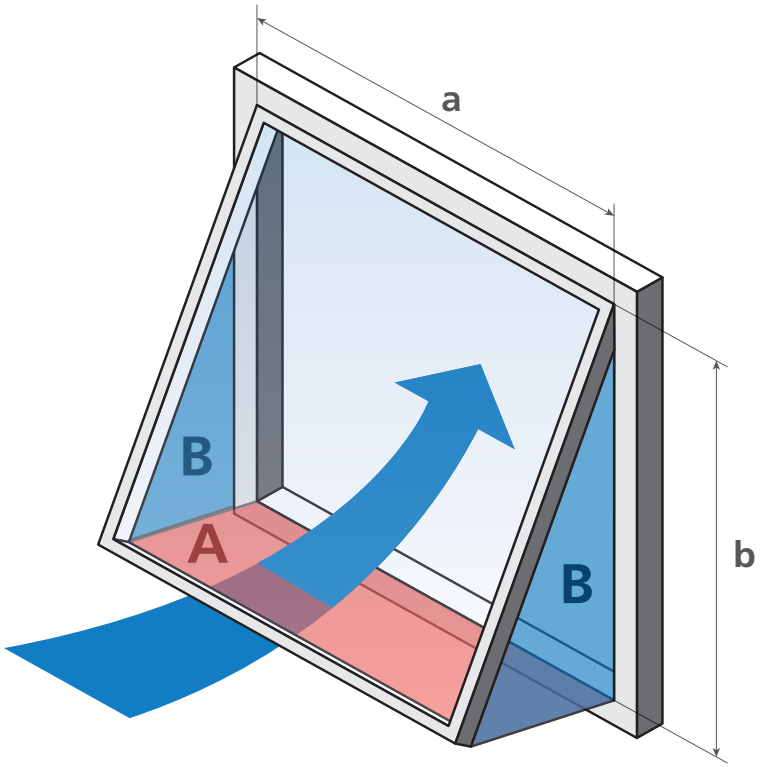
Contact SE Controls Senior Key Account Manager (SKAM) for project specific free area calculations.

Effective Area Calculation

Environmental Ventilation

Similar to aerodynamic area, this is the effectiveness of the vent rather than physical geometric area.

This method is used for non-residential environmental ventilation applications.
The physical area produced by opening the window: A + 2B x efficiency factor, as detailed in CIBSE Guide AM10.
This area cannot exceed the maximum geometric area of the vent a x b.
Please note that neighbouring vents, obstructions and reveals will impact air flow.



Effective Area:

A + 2B x Efficiency Factor
(which is application/project specific, please refer to SE Controls).

The internal throat is the inner most clear dimensions of the vent.

Construction Products Regulation (CPR) and CE Marking

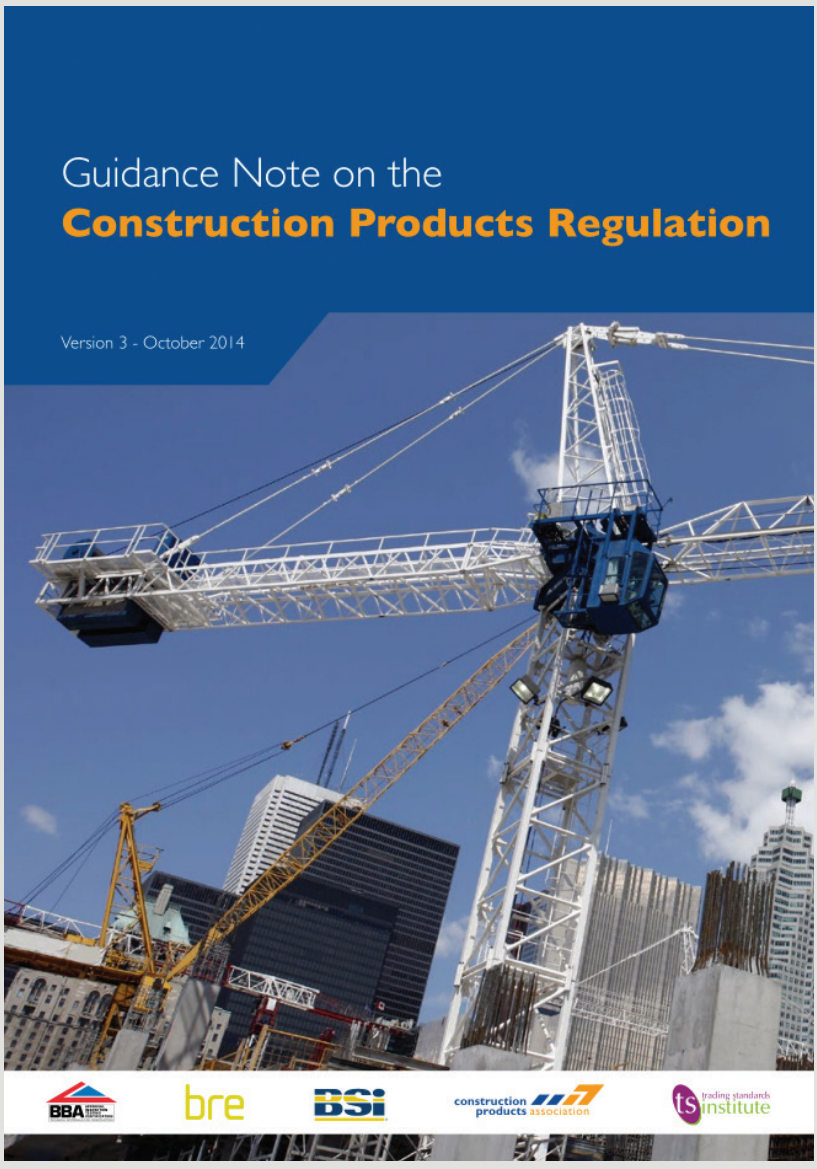
CPR and CE Marking

Whilst the use of CE marking has been commonly applied to a wide variety of products for a number of years, the need to CE mark products sold into the UK Construction market became mandatory in July 2013 when the Construction Product Directive became the Construction Products Regulation (CPR).

The CPR mandates that where a European harmonised standard exists for a product, a manufacturer must draw up a declaration of performance and apply CE marking to this product. Any product that has a harmonised European standard that is placed upon the construction market must be CE marked against that standard.

The risks of non compliance are refusal of payment, LAD's due to delays in handover and criminal prosecution for failing to meet mandatory life safety standards.

CE



CE Marking Process Under CPR

STAGE 1 Product

Identify if it has an applicable Harmonised European Norm (hEN) EU directive.

STAGE 2 Assess

Review the essential characteristics and establish the route to conformity.

STAGE 3 Test

Test the product against the standard at an independent accredited facility - Certify (CCP).

STAGE 4 Process

Ensure that you have sufficient Factory Production Control (FPC) processes and qualifications to manufacture the product. For life safety systems, a System 1 FPC process is required (audited by an external notified body).

STAGE 5 Certify

Submit a Declaration of Performance (DoP) and affix the CE marking to the product or document.

NO DoP - NO COMPLIANCE

Introduction to EN 12101

EN 12101 family of standards detail the mandatory requirements for life safety products and systems.

The three standards pertinent to this document are parts 2, 9 and 10, which encompass smoke ventilators (SHEV's) and their controls.

PART 1
Specification for smoke barriers.

PART 2
Natural Smoke And Heat Exhaust Ventilators (SHEVs).

PART 3
Specification for powered SHEVs.

PART 4
Installed SHEVs systems for smoke and heat ventilation.

PART 5
Guidelines on functional recommendations and calculation methods for SHEVs.

PART 6
Specification for pressure differential systems.

PART 7
Smoke control sections.

PART 8
Smoke control dampers.

PART 9
Control panels (pr EN).

PART 10
Power supplies.

EN 12101 **Part 2**

EN 12101-2 dictates that an opening smoke vent is in itself a unique product which can only be CE marked if it meets certain criteria. The vent profile and actuator need to be tested together to comply to EN 12101-2 at an accredited testing facility.

The installation onsite must be identical to the test. Therefore an audited certified Factory Production Control (FPC) process must be followed, with accompanying documentation. As this is a life safety product, the CPR does not allow alternative products to be utilised, other than the prescriptive products used in the test.

STAGE 1 Consult

Consult SE Controls to ensure parameters are met and select appropriate tested actuator.

STAGE 2 Fabricate

Fabricate as per the tested solution preparation details under System 1 FPC to EN 12101-2.

STAGE 3 Install

Installation must be taken under System 1 FPC.

STAGE 4 Certify

SE Controls produce a Declaration of Performance (DoP) declaring ALL essential characteristics and CE Mark.

Note:
The CE Mark does not solely satisfy the requirements of the CPR, it is only a part of it.The ultimate document to prove compliance is the DoP which is signed by a director of the company placing the product onto the market. The DoP must contain references to the tests, notified body and declare performance against all essential characteristics required by the standard.

Refer to Page 46, Route to Market for the appropriate SE Controls compliant offer.

EN 12101-2:2017 has been blocked from citation in the OJEU by the European Commission. This means that it is not yet possible to CE mark products according to this standard. CE marking is only possible after the 'Date of applicability of the standard as a harmonised standard', which is part of the citation in the OJEU. Until the new standard is cited, CE marking of products in scope must follow EN 12101-2:2003.

See link to the current harmonised standard listed in OJEU; http://ec.europa.eu/growth/tools-databases/nando/index.cfm?fuseaction=cp.hs&cpr=Y

Harmonised Standards for Controls

Certified life safety smoke vents must be operated by suitably certified controls systems. SE Controls manufacture, install, commission and maintain such systems.

BS 7346-8 states the compliance requirements for all smoke ventilation components. In addition to the smoke vent itself (part 2) there are 2 European norms for the controls that operate the vents Parts 9 and 10.

prEN 12101-9

This part of EN 12101 specifies the product performance requirements, classifications and test methods for control systems designed for use in smoke and heat control systems in buildings.

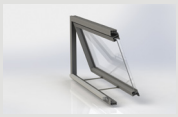
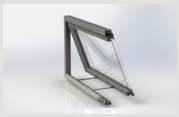
EN 12101-10

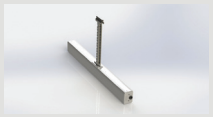
This part of EN 12101 specifies requirements and gives test methods for primary and secondary electrical and pneumatic power supply equipment, designed for use in smoke and heat control systems in buildings.

The standard requires that the product is tested as a whole. Certification of individual components does not substantiate compliance.

Product **Features** and **Benefits**

Product Range

	SECO N 24 25		SECO Ni 24 40		
	Single	Twin	Single	Twin	
					
Features					
Voltage	24V dc	24V dc	24V dc	24V dc	
Stroke Range (mm)	up to 350	up to 350	0-600	0-600	
			601-900	601-900	
Configurable Stroke (0 - full stroke in mm)	Yes	Yes	Yes	Yes	
Current Draw (A)	0.5	1.0			
0-600mm stroke			1.0	2.0	
601-900mm stroke			1.2	2.4	
Standard Operating Speed (mm/sec)	5	5	15	15	
Configurable Speed	Yes	Yes	Yes	Yes	
Operating / Opening Force (N)	250	250 x 2	400 (to 600mm)	400 x 2 (to 600mm)	
Clamping / Locking Force (N)	4000	4000 x 2	4000	4000 x 2	
Programmable Gasket / Compression Relief	Yes	Yes	Yes	Yes	
Soft Close	Yes	Yes	Yes	Yes	
Standard Colour	RAL 9006	RAL 9006	RAL 9006	RAL 9006	
Other Colour Options	Yes	Yes	Yes	Yes	
Standard Flex Length (M)	2	2	2	2	
Extended Flex Lengths (M)	10 Max	10 Max	10 Max	10 Max	
Product Warranty (Cycles) Self Monitored	15,000	15,000	15,000	15,000	
Ventilation Type	Environmental	Environmental	Smoke & Environmental	Smoke & Environmental	
Overall Product Dimensions (mm)	42x29x488	42x29x1131	54x42x635	54x42x1296	
		42x29x1309	54x42x785	54x42x1593	
		42x29x1359			
Handle Options					
Mini / Midi / Long Midi / Maxi					

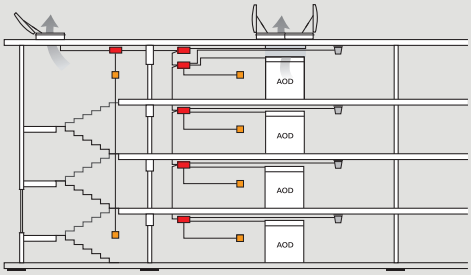
	SECO N 25		SECO Ni 40		TGCA Locking Catch	Remote Manual Opening Chain Actuator
	Single	Twin	Single	Twin	Multi Point Locking	Manual Winding Gear
						
	230V ac	230V ac	230V ac	230V ac	24V dc	
	up to 350	up to 350	0-600	0-600	18	up to 380
	Yes	Yes	Yes	Yes	n/a	Yes
	0.12	0.25	0.25	0.5	1.8	
	5	5	15	15	3	
	Yes	Yes	Yes	Yes	No	
	250	250 x 2	400	400 x 2	Max 1200	
	4000	4000 x 2	4000	4000 x 2	3000	
	Yes	Yes	Yes	Yes		No
	Yes	Yes	Yes	Yes		No
	RAL 9006	RAL 9006	RAL 9006	RAL 9006	RAL 9006	White, Grey, Black, Brown
	Yes	Yes	Yes	Yes	Yes	No
	2	2	2	2	3	
	10 Max	10 Max	10 Max	10 Max	10 Max	
	15,000	15,000	15,000	15,000	10,000	12 months
	Environmental	Environmental	Environmental	Environmental	Smoke & Environmental	Environmental
	42x29x591	42x29x1177	54x42x635	54x42x1296	33x35x423	69x38x211
		42x29x1275				69x38x284
		42x29x1383				
						Yes

Control Systems **Features** and **Benefits**

	NVLogiQ PSU	OS2 Shevtec	Multi Zone PSU Panels
Features			
Smoke Ventilation	No	Yes	Yes
MCP Compliant to pr EN 12101-9	No	Yes	Yes
Compliant to EN 12101-10	No	Yes	Yes
Environmental Ventilation	Yes	Yes	Yes
Battery Back Up	No	Yes	Yes
Cycle Monitoring	Yes	Yes	Yes
Event Log	No	Yes	Yes
Zones	1	1	Up to four 8A outputs per PSU
Thermostat	No	Yes	Yes
Temperature sensor	Yes	Yes	Yes
CO^2 Sensor	Yes	Yes	Yes
Open/Close Switch	Yes	Yes	Yes
Maintenance Switch	Yes	Yes	Yes
0-10V Analogue	Yes	Yes	Yes
Volt Free Contact	Yes	Yes	Yes
OSLink (Internal networking)	Yes	Yes	Yes
OSLon (External networking through LON)	No	Yes	Yes
PIR	Yes	Yes	Yes
Output Signals			
0-10V	With a Room Controller	Yes	Yes
Revised Position Feedback	No	Yes	Yes
24Vdc	Yes	Yes	Yes
Volt Free Contact (VFC) Common Fault	Yes	Yes	Yes
Volt Free Contact (VFC) Activated	No	Yes	Yes
OSLink	Yes	Yes	Yes
OSLon	No	Yes	Yes
Follow Me Command	No	Yes	Yes
Magnetic Mode	No	Yes	Yes

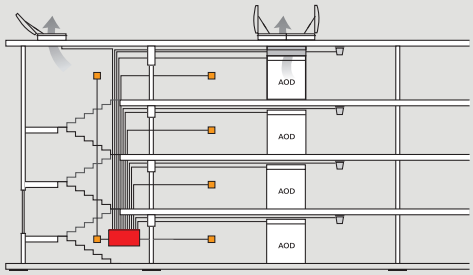
Networked Control System

230V required for each Networked Controller



Centralised Control System

230V required for Central Control Point



Key

- Networked Controller
- Ionisation Smoke Detector
- Central Control Point
- Manual Control Point

Transformers and MCPs

MADE IN BRITAIN

	Transformers		MCP	
	Switched	Unswitched	Standard	Tamper-proof
				
Features				
Audible signals			Yes	Yes
Silence Button			Yes	Yes
Continuous Monitoring			Yes	Yes
Maintenance Indication			Yes	Yes
Activation			Yes	via Key Fob
Reset			Yes	via Key Fob
Activated LED			Yes	Yes
Power/Healthy LED			Yes	Yes
Fault LED			Yes	Yes
Voltage	230V ac	230V ac		
Power Consumption (mA)	Max 350	Max 350		
Voltage Output	24V (+/- 10%)	24V (+/- 10%)		
Output Current	Max 3A	Max 3A		
Application	Environmental	Environmental	Smoke	Smoke
Overall Product Dimensions (mm)				
Flush Mount (mm)	146x86x10	146x86x10	87x87x22	87x87x22
Surface Mount (mm)	146x86x40	146x86x40	87x87x54	87x87x54

BIM

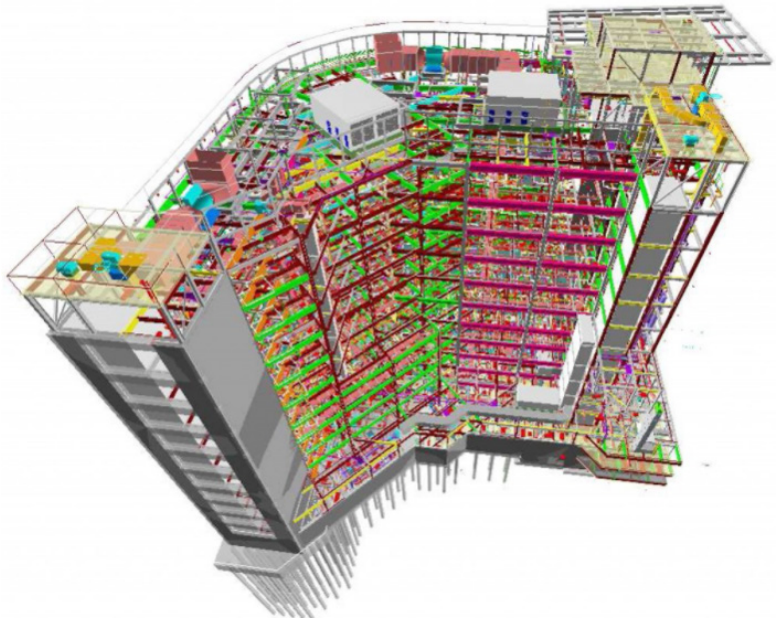
Building Information Modelling **(BIM)**

Building Information Modelling (BIM) is the generation and management of digital representations, or BIM Objects, of physical and functional characteristics of products to ensure data of the built environment is carried from design, through construction to the maintenance and operation of the building.

The Government Construction Strategy, published in 2011, announced the Government's intention to require electronic collaborative 3D BIM on centrally procured public sector projects by April 2016.

SE Controls has NBS Clauses and BIM Objects available on NBS Plus and BIM Object and at www.secontrols.com/bim

bimobject®



Generic Bottom Hung Window with SECO Ni 2440

Unique ref: SECBIM0012
Brand: SE Controls
Product Family: Windows
Product Group: Façade
Date of Publishing: 2016-05-26
Edition No. 1

Type: Assembly (multiple objects)

Duraflex

Tested **Solutions** & Standard **Details**

Actuator Installation Details:
Duraflex Aluminium Window

Environmental Ventilation

FRAME REF NO.	OPENING VENT REF NO.	SERIES 40 BRACKET KIT NO.	SERIES 25 BRACKET KIT NO.
3133	3134	AKS16100003	AKS18100003

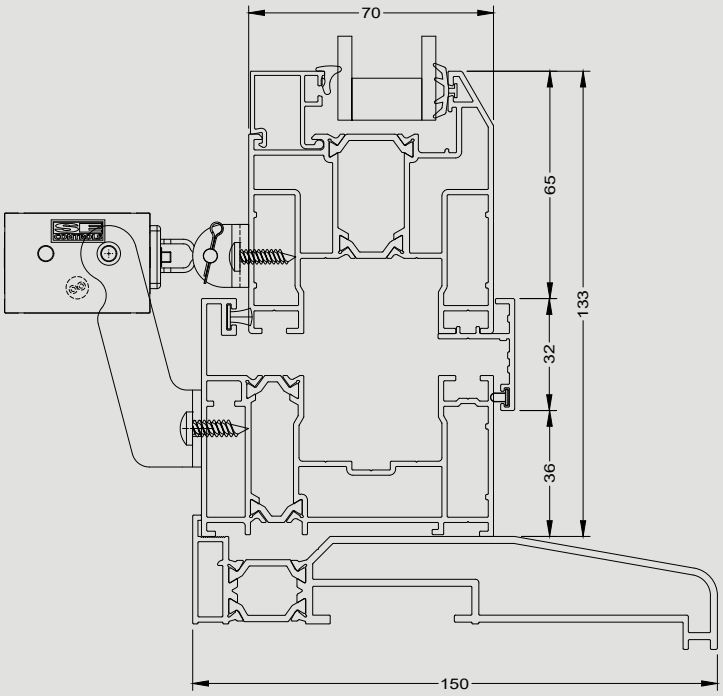
System Parameters

SYSTEM NAME	MAX WIDTH	MAX HEIGHT	MAX WEIGHT
TOP HUNG WITH BUTT HINGES	2000MM	1200MM	100KG
BOTTOM HUNG WITH BUTT HINGES	2000MM	1200MM	100KG
SIDE HUNG WITH BUTT HINGES	1300MM	2400MM	100KG

Please note, if vents are manufactured over the system company maximum parameters stated above, additional hardware may be required. Please contact the Duraflex Technical Department for more information.

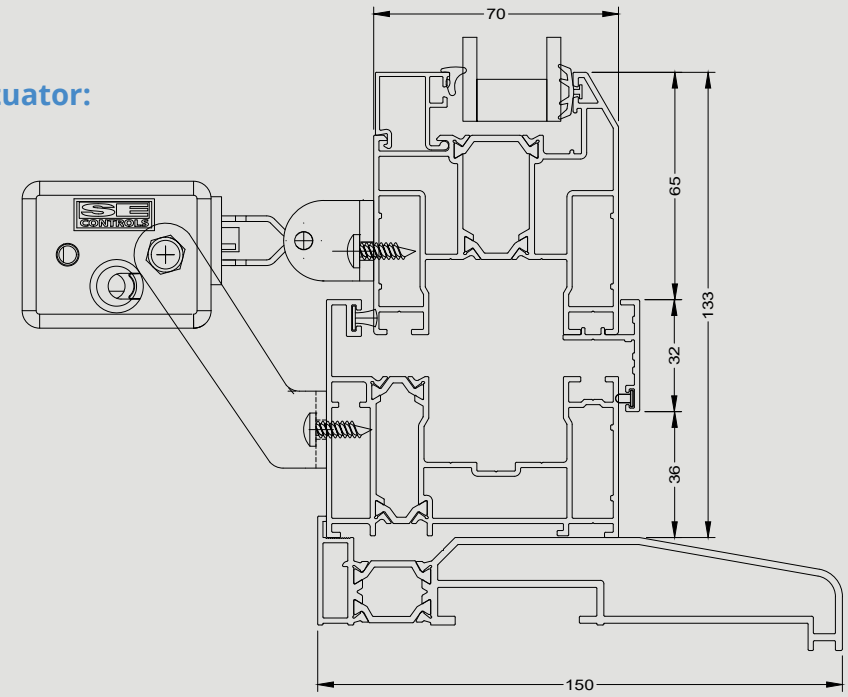
Please note; the actuators alone will not act as 'window restrictors'. The façade contractor/fabricator should consider the installation of suitable restrictors relative to the orientation of the vent, so that stability is provided should the actuator be removed, or the vent is subjected to high external forces whilst in the open position. The restrictor should be set such that the actuator can open to it's full stroke without being impeded ie. set 50mm past the actuator stroke length. If the vent is not fitted with a restrictor and subsequent damage occurs due to the lack of restriction SE Controls will not be liable for any replacement actuators or damage to the vent.

Standard detail of SERIES 25 actuator: Duraflex Aluminium Window



TOP HUNG ORIENTATION

Standard detail of SERIES 40 actuator: Duraflex Aluminium Window



TOP HUNG ORIENTATION

Actuator Installation Details:
Duraflex Aluminium Window

Smoke Ventilation

FRAME REF NO.	OPENING VENT REF NO.	SERIES 40 BRACKET KIT NO.
3133	3134	AKS16100003

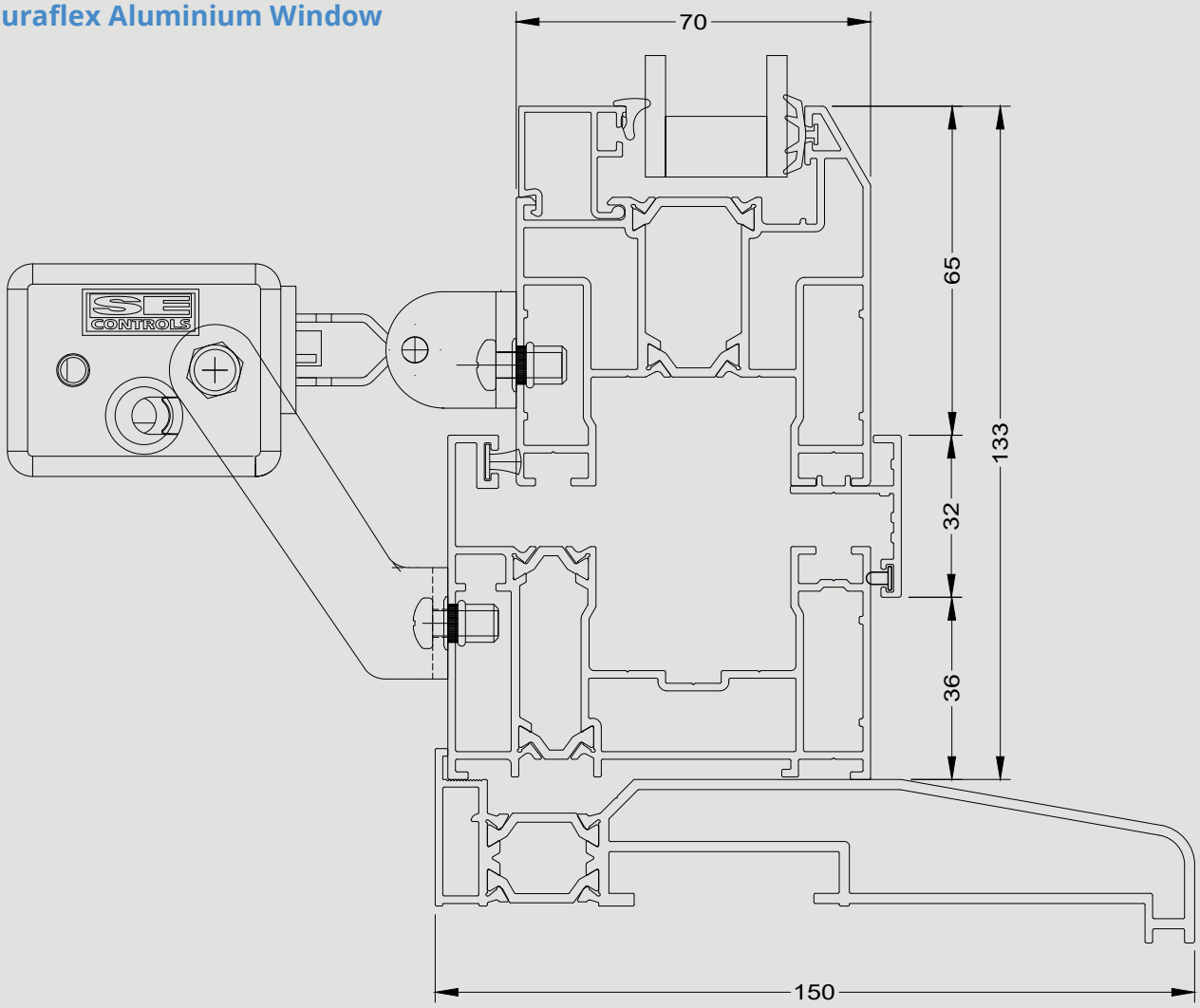
System Parameters

SYSTEM NAME	MAX WIDTH	MAX HEIGHT	MAX WEIGHT
TOP HUNG WITH BUTT HINGES	2000MM	1200MM	100KG
BOTTOM HUNG WITH BUTT HINGES	2000MM	1200MM	100KG
SIDE HUNG WITH BUTT HINGES	1300MM	2400MM	100KG

Smoke vents may be manufactured above these sizes as weather performance is not declared under EN12101-2:2003. Please see the graphs on pages 44 and 45 or contact SE Controls Tecnical Facade department for further information.

Please note, if vents are manufactured over the system company maximum parameters stated above, additional hardware may be required. Please contact the Deceuninck Technical Department for more information.

Standard detail of SERIES 40 actuator: Duraflex Aluminium Window



TOP HUNG ORIENTATION

Please note; the actuators alone will not act as 'window restrictors'. The façade contractor/fabricator should consider the installation of suitable restrictors relative to the orientation of the vent, so that stability is provided should the actuator be removed, or the vent is subjected to high external forces whilst in the open position. The restrictor should be set such that the actuator can open to it's full stroke without being impeded ie. set 50mm past the actuator stroke length. If the vent is not fitted with a restrictor and subsequent damage occurs due to the lack of restriction SE Controls will not be liable for any replacement actuators or damage to the vent.

SE Controls EN12101-2 Tested Vent Parameters

Side Hung Open Out - Vertical Vents

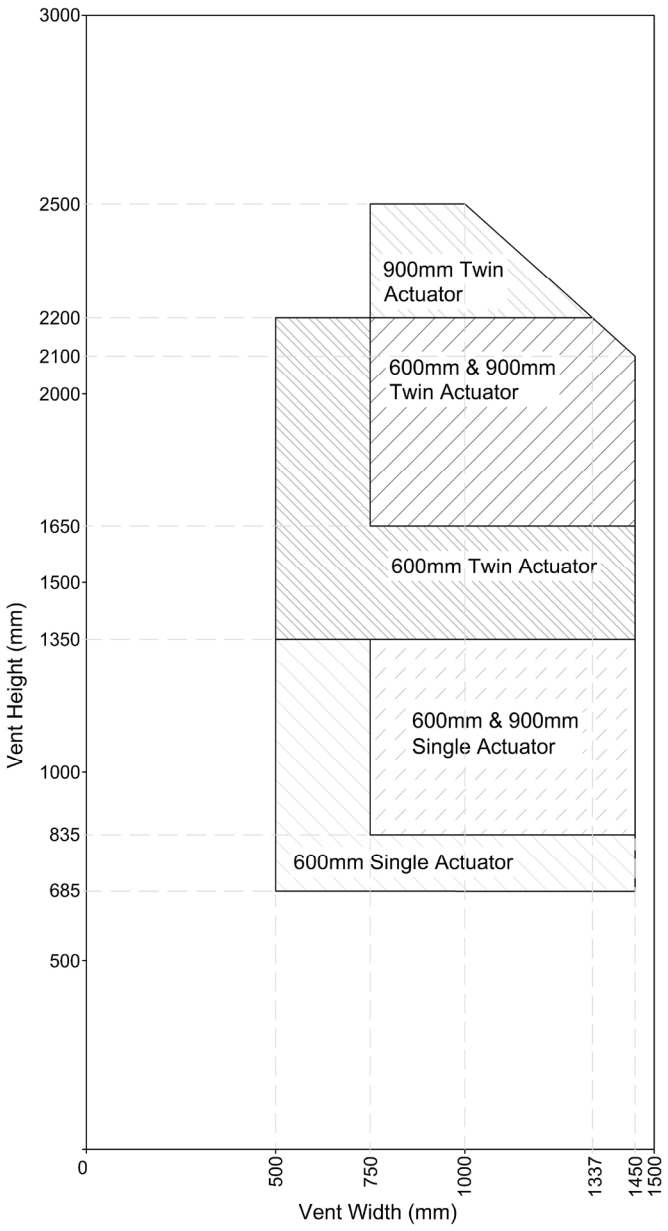
Smoke Ventilation

Max vent area: 3.05m²

Max vent weight: 90Kg

Max vent perimeter: 7.1m

Sizes are based on using butt hinges.



The above information indicates the size parameters that SE Controls can certify to EN12101-2:2003, aligned to the test specimens utilised.

Should the vent size exceed the System Company parameters for performance, we recommend approval is sought.

SE Controls EN12101-2 Tested Vent Parameters

Bottom Hung Open Out - Vertical Vents

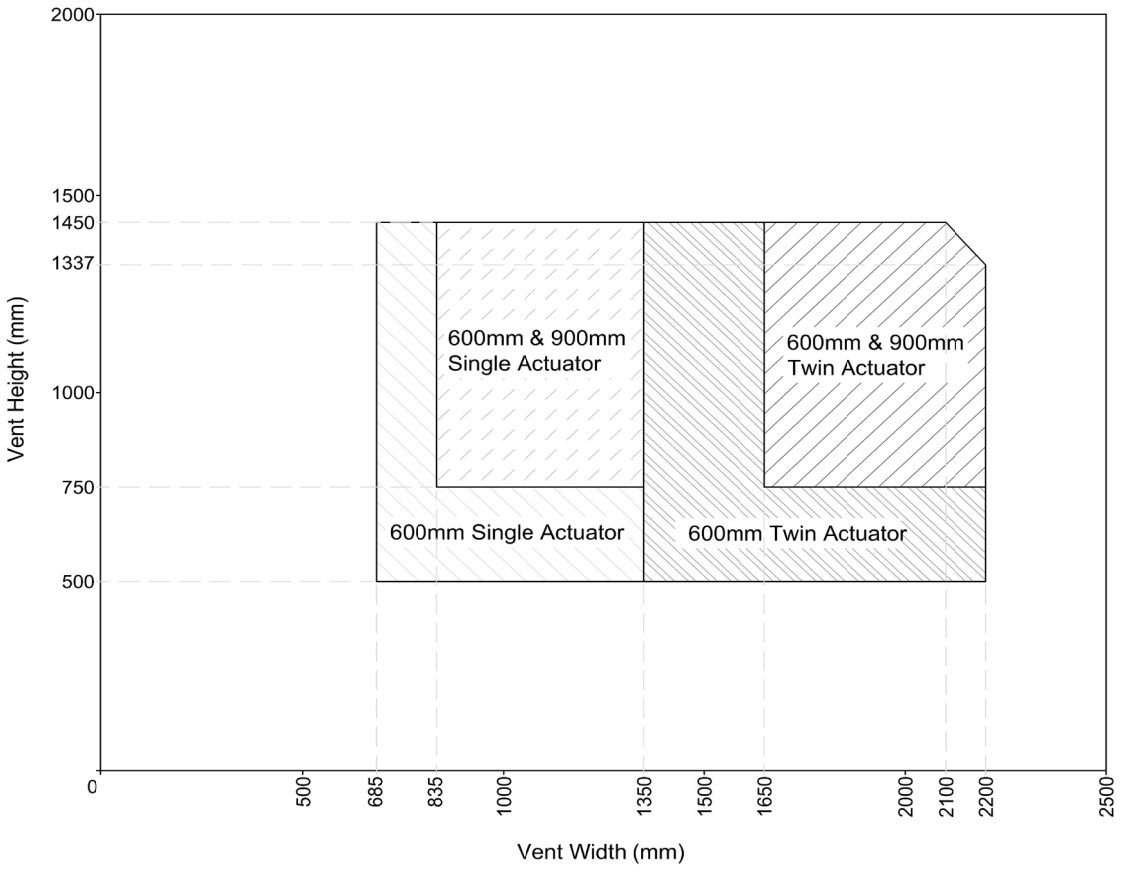
Smoke Ventilation

Max vent area: 3.05m²

Max vent weight: 90Kg

Max vent perimeter: 7.1m

Sizes are based on using butt hinges.



The above information indicates the size parameters that SE Controls can certify to EN12101-2:2003, aligned to the test specimens utilised.

Should the vent size exceed the System Company parameters for performance, we recommend approval is sought.

SE Controls EN12101-2 Tested Vent Parameters

Top Hung Open Out

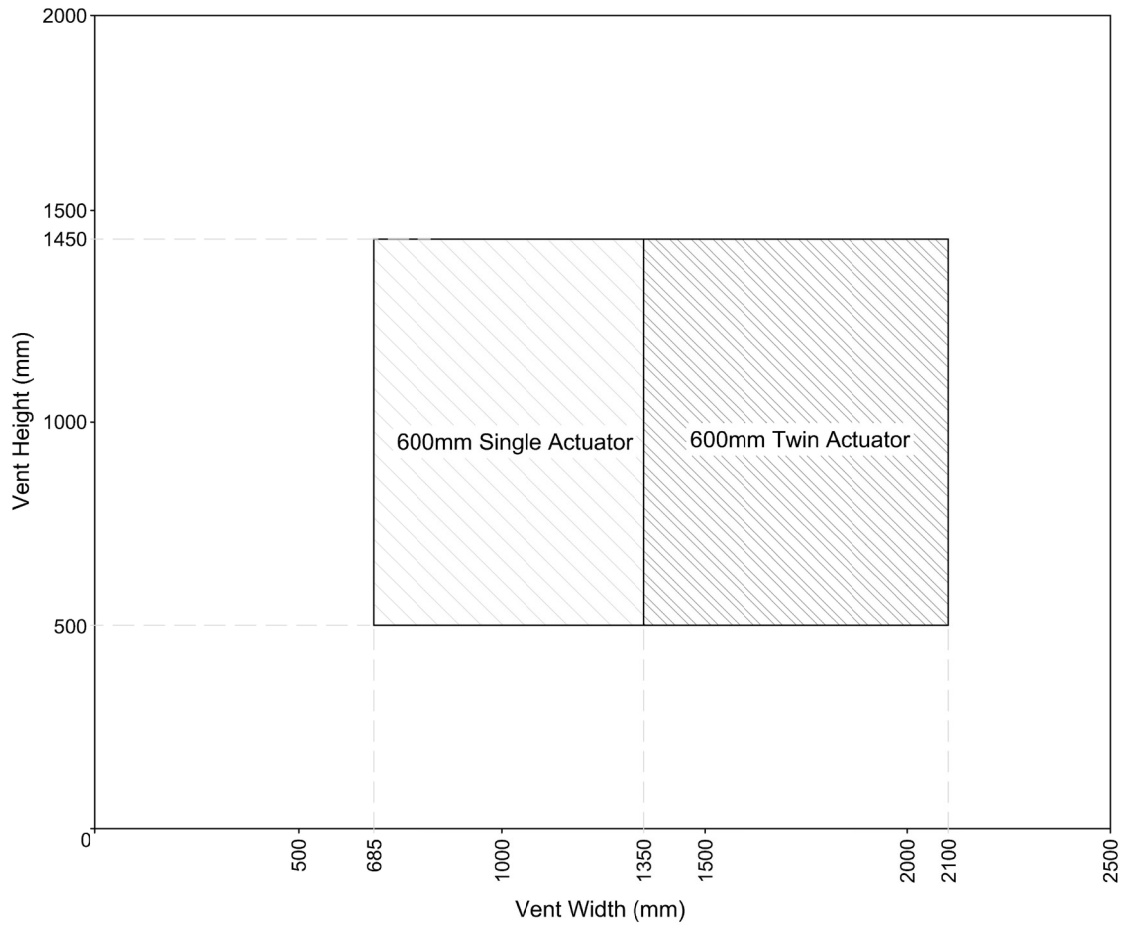
Smoke Ventilation

Max vent area: 3.05m²

Max vent weight: 90Kg

Max vent perimeter: 7.1m

Sizes are based on using butt hinges.



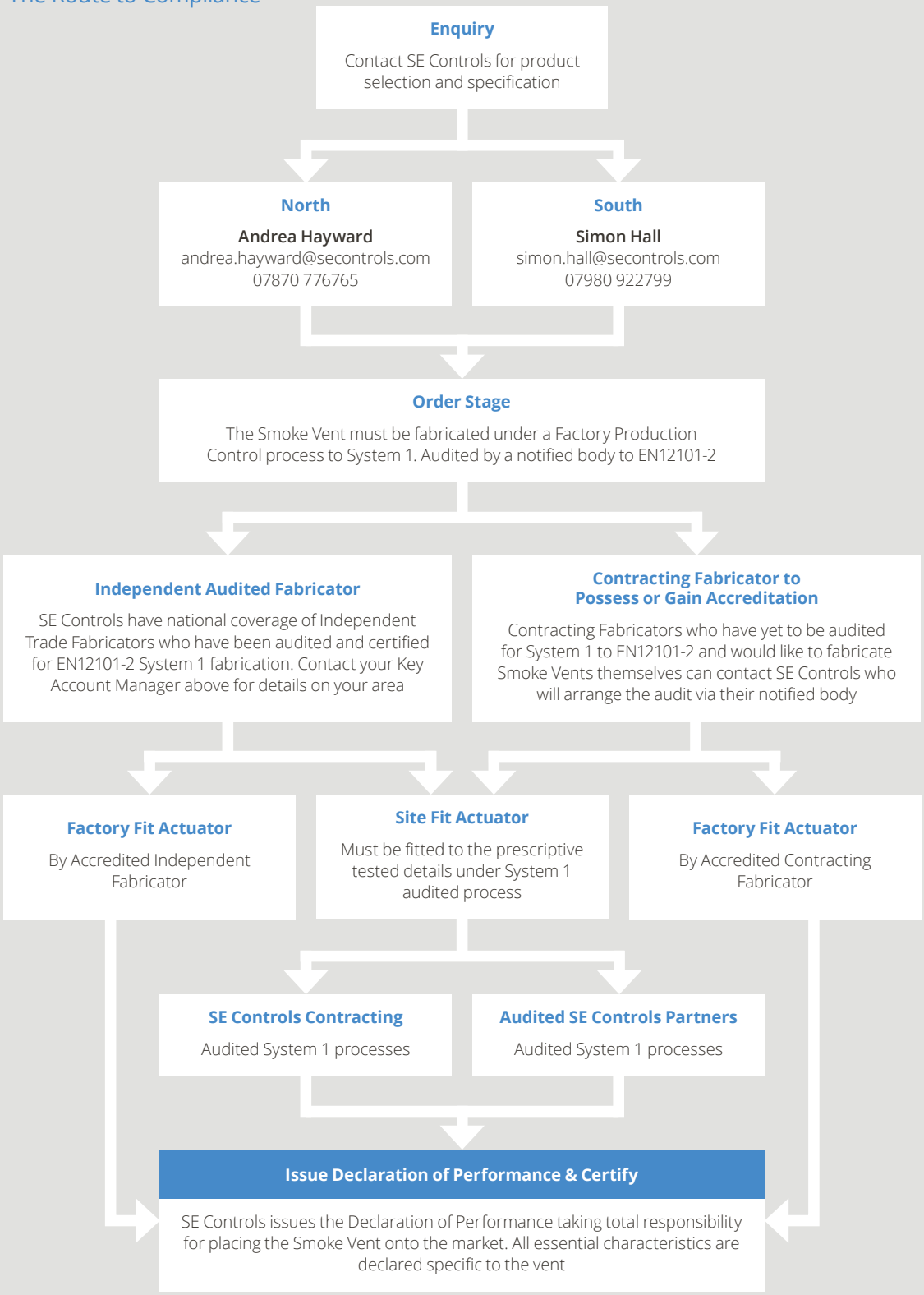
The above information indicates the size parameters that SE Controls can certify to EN12101-2:2003, aligned to the test specimens utilised.

Should the vent size exceed the System Company parameters for performance, we recommend approval is sought.

Route to **Market**

Route to Compliance

EN12101-2 Smoke Vents – 'The Route to Compliance'



Selection **Guide**

Actuator Selection Criteria

The below considerations will assist in accurately selecting the appropriate actuator.

What façade/envelope system and vent profile reference is proposed?

What is the application? e.g. smoke ventilation, environmental ventilation or both?

What is the building type? e.g. High Rise Residential, Non-Residential?

Do the vents open in or open out?

Are the vents top/side/bottom hung, or pivot/parallel opening?

Is there a free area requirement? If so, is it geometric, aerodynamic or effective? Or is there a clear opening distance requirement?

Do you have detailed plan and elevation drawings?

Contacts

For advice or assistance on design, supply, manufacture or maintenance please direct your enquiry to your local Senior Key Account Manager as indicated on the map.

North Region:

Andrea Hayward
Senior Key Account Manager
M: 07870 776 765
E: andrea.hayward@secontrols.com

South Region:

Simon Hall
Senior Key Account Manager
M: 07980 922 799
E: simon.hall@secontrols.com

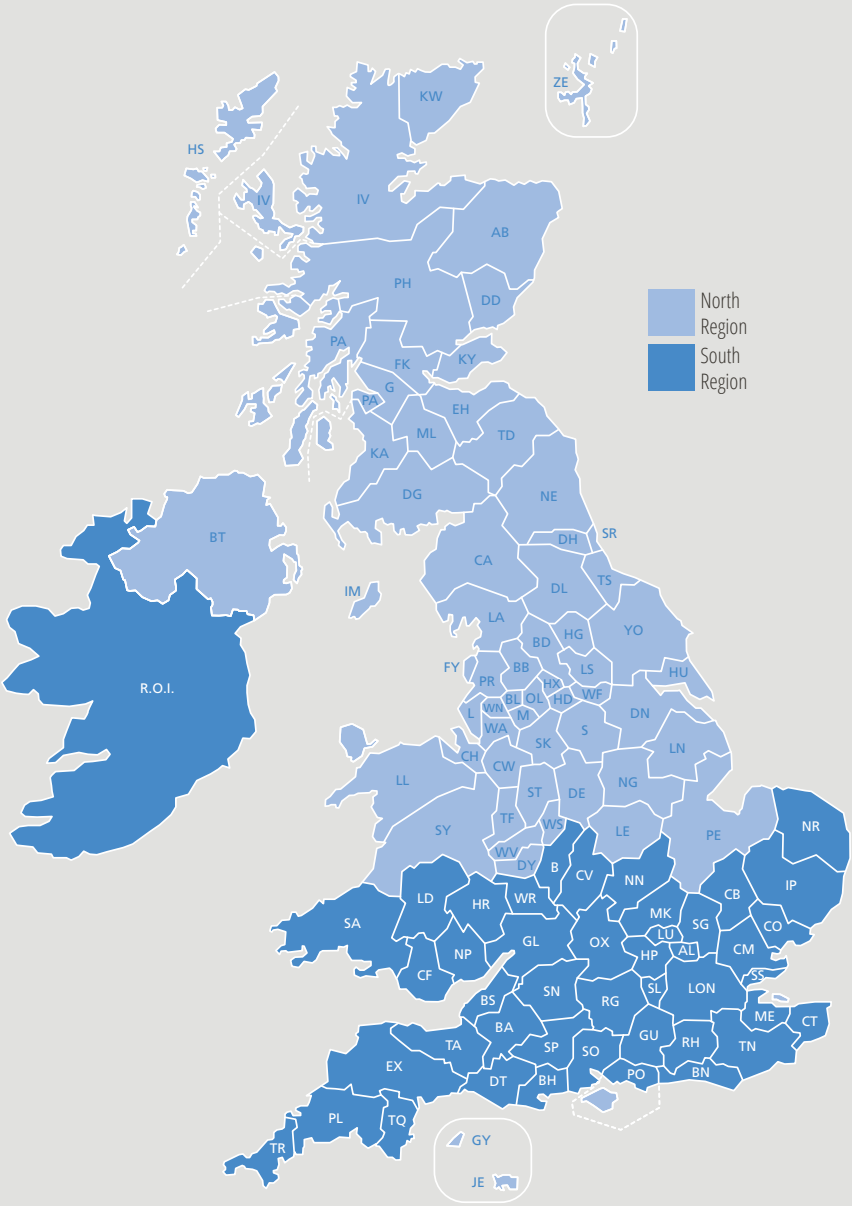
Other Contacts:

Martin Oates
Director of Global Sales
T: 07887 990 901
E: martin.oates@secontrols.com

Darren Wainwright
Facade Technical Manager
T: 07825 587 110
E: darren.wainwright@secontrols.com

Gareth Jones
Facade Technical Advisor
T: 01543 443 882
E: gareth.jones@secontrols.com

Simon Wood
Facade Technical Sales Estimator
T: 01543 443 851
E: simon.wood@secontrols.com



Notes

Duraflex

Duraflex Window Systems
c/o UK Windows & Doors Group Ltd
Severn Drive, Tewkesbury Business Park
Gloucestershire
GL20 8SF

+ 44 (0)8705 351 351
https://www.duraflex.co.uk/

SE CONTROLS

Creating a healthier & safer environment

Lancaster House
Wellington Crescent
Fradley Park, Lichfield
Staffordshire WS13 8RZ

+44 (0)1543 443060
sales@secontrols.com
www.secontrols.com