

Smoke Ventilation



Welcome



Sam Yiend
Managing Director

We at Teal Products have over 20 years' experience in the natural and smoke ventilation industry. Working on a broad range of projects for various building types including apartment blocks, schools, hospitals, shopping centres, museums and art galleries.

Our extensive product range of smoke ventilation controls and smoke vents all meet the current product standards. Giving you peace of mind on your next project.

Our team of engineers will guarantee a professional service to help meet your requirements whatever the project. From initial enquiry through to the aftercare support, our smoke ventilation experts are here to help.



Contents

We pride ourselves on using only the best smoke ventilation products on the market. See our range of products and services to discover more.



Smoke Vents

Our range of smoke vents include roof hatches, roof louvres, centre-pivot windows, wall louvres, windows and dampers.



Controls

Single-zone and multi-zone systems to suit a large range of smoke applications including stairwells, smoke shafts and corridors.



Case Studies

Over the years we have had the privilege of working on numerous smoke ventilation projects. Here are just a few of them.



Services

IFC certified, CHAS accredited and a certified WindowMaster partner it's safe to say you're in good hands!

Applications

The primary objective of a smoke ventilation system is to protect the stairwell and common circulation areas.



A

Stairwell

Approved Document B recommends that a vent with a free area of at least 1m² be provided between top storey of the stair and the outside.



B

Smoke Shaft

On detection of smoke in the corridor/ lobby, the smoke vent(s) on the fire floor, the smoke vent at the top of the shaft and to the stairwell should all open simultaneously.



C

Corridor

A vent with a minimum free area of 1.5m² should be located on an external wall of a corridor/lobby to be ventilated. The vents should be located as high as practicable and such that the top edge is at least as high as the top of the door to the stair.

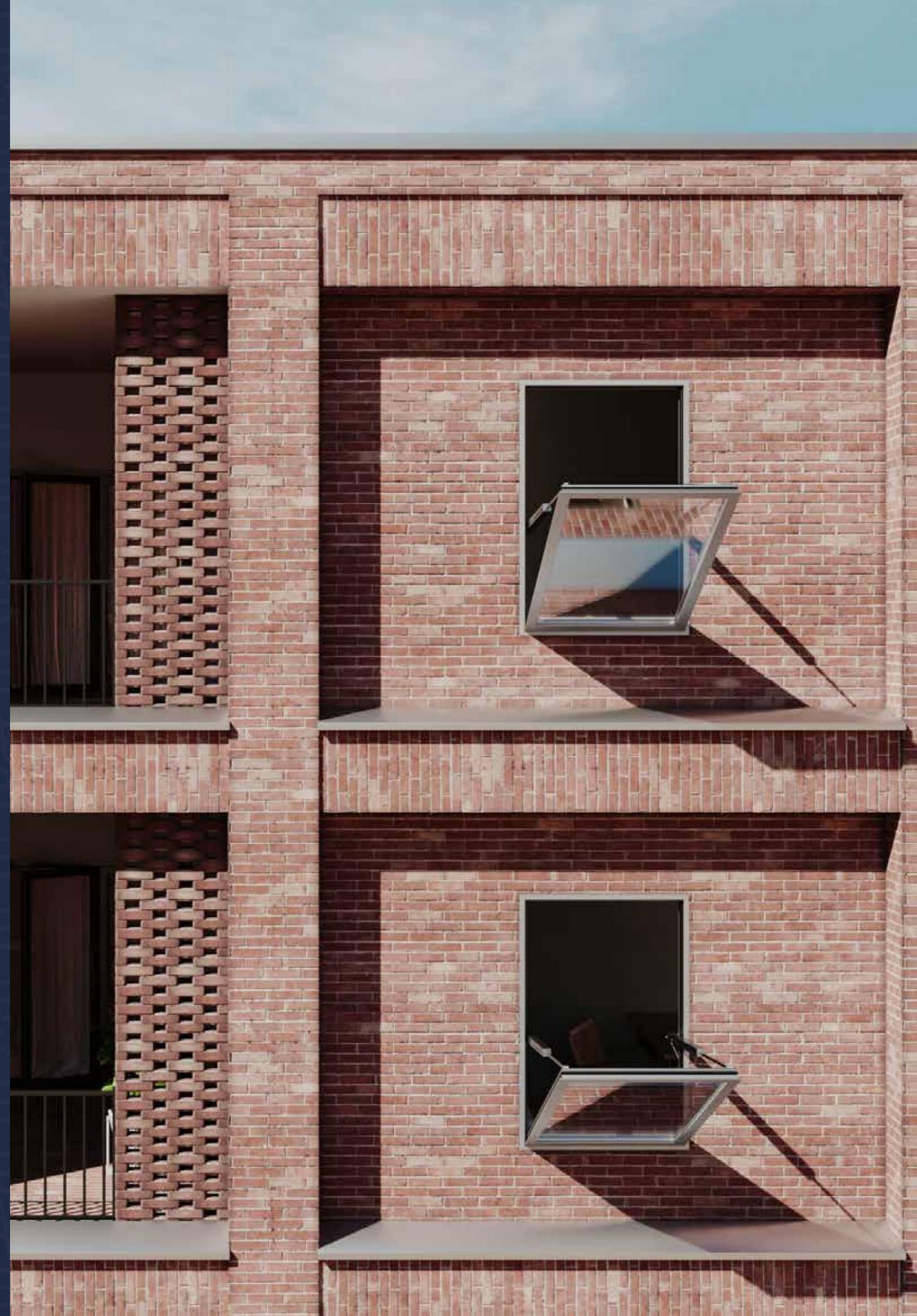


Regulations

For up to date advice on the latest relevant building regulations and safety standards please contact our technical team.



Smoke Vents



Sizes	1050x1050mm 1200x1200mm 1000x1600mm Bespoke
Free Area	1m ² or 1.5m ²

SV-R-RL1

SV-R-RL1 AOV roof hatch units are principally designed for smoke and heat ventilation in protected stairwells and corridors within residential apartments, hotels, shops, and offices. Available as square, rectangular or circular.



Cover Lid

Available in polycarbonate single, double, triple or quad skin or with aluminium insulated solid cover. The aluminium insulated covers are available as mill finish or powder coated to any RAL colour.



Applications

- Head of Smoke Shaft
- Head of Stairwell

Certification

Certified and tested in accordance to EN 12101-2



Part Codes

SV-R-RL1-1050X1050	AOV Roof Hatch Polycarbonate Dome 1050x1050mm 1.0m ²
SV-R-RL1-1200X1200	AOV Roof Hatch Polycarbonate Dome 1200x1200mm 1.4m ²
SV-R-RL1-1000X1600	AOV Roof Hatch Polycarbonate Dome 1000x1600mm 1.6m ²

* Alternative sizes are available

Technical Data

Upstand	uPVC 150mm vertical upstand
Lid	Polycarbonate (clear or opal) or Aluminium
Geometric Free Area	1m ² or 1.5m ² (depending on vent size)
U Value	Supplied as standard with double skin polycarbonate lid = 2.6W/(m ² .K)
Voltage	24V DC
Opening	160°
Opening Speed	> 60 secs
Current Consumption	4 Amp
Colour	Mill Finish (external) and White (internal)
Certification	EN 12101-2
Cable Dimension	2-Core
Delivery Includes	1 x Vent & 1 x Actuator

Dimensions

	A	B
SV-R-RL1-1050X1050	1050mm	1050mm
SV-R-RL1-1200X1200	1200mm	1200mm
SV-R-RL1-1000X1600	1000mm	1600mm

Sizes	960x1600mm 960x1800mm
	960x2000mm Bespoke
Free Area	1m ² or 1.5m ²

SV-R-L2

SV-R-L2 AOV roof louvre units are principally designed for smoke and heat ventilation in protected stairwells and smoke shafts within residential apartments, hotels, shops, and offices.



Blades

Supplied as standard with solid insulated aluminium blades - mill finish or powder coated to any RAL colour. Also available with glass blades, please speak to our sales team for more information.



Applications

- Head of Smoke Shaft
- Head of Stairwell

Certification

Certified and tested in accordance to EN 12101-2



Part Codes

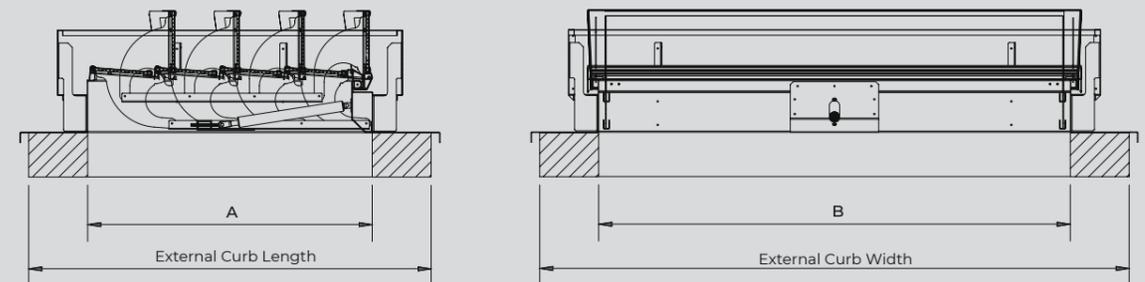
SV-R-L2-960X1600	AOV Roof Louvre 960x1600mm 1.55m ²
SV-R-L2-960X1800	AOV Roof Louvre 960x1800mm 1.74m ²
SV-R-L2-960X2000	AOV Roof Louvre 960x2000mm 1.93m ²

* Alternative sizes are available

Technical Data

Upstand	150mm builders kerb up-stand
Blades	Solid insulated aluminium blades (Standard) / Glass blades
Geometric Free Area	1m ² or 1.5m ² (depending on vent size)
U Value	Overall 'U' Value 1.75 W/m ² K
Voltage	24V DC
Opening	90°
Opening Speed	> 60 secs
Current Consumption	1 Amp or 2 Amp
Colour	Mill Finish / Powder Coated
Certification	EN 12101-2
Cable Dimension	2-Core
Delivery Includes	1 x Vent & 1 x Actuator

Dimensions

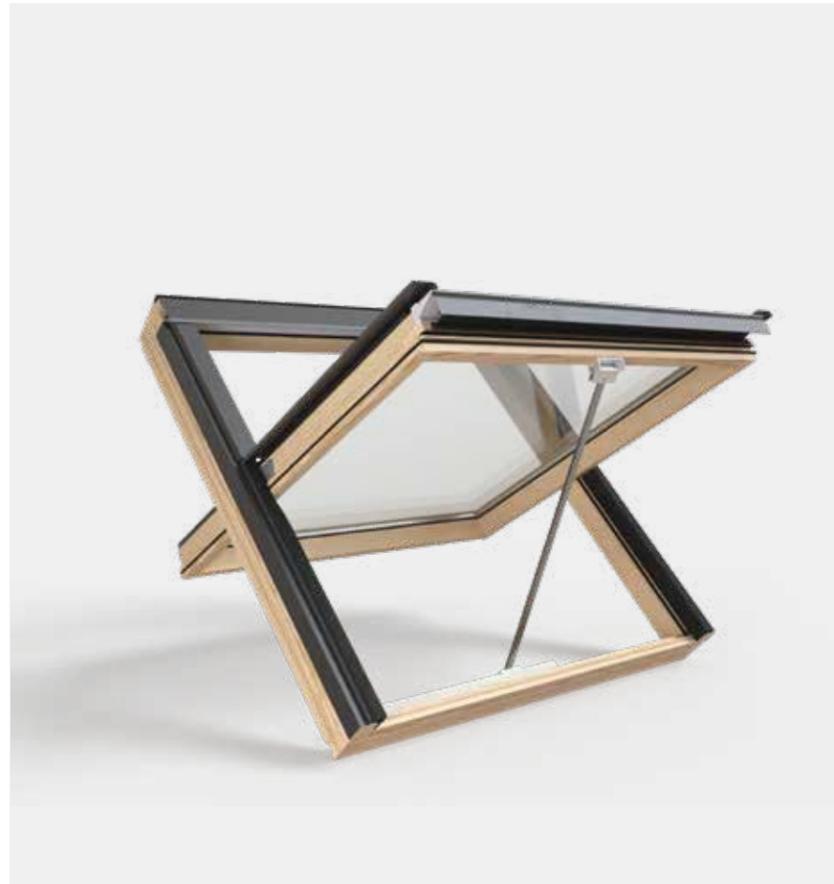


	A	B
SV-R-L2-960X1600	960mm	1600mm
SV-R-L2-960X1800	960mm	1800mm
SV-R-L2-960X2000	960mm	2000mm

Sizes	780x1400mm 1140x1180mm
	1340x1400mm
Free Area	1m ² or 1.5m ²

SV-R-CP

SV-R-CP AOV centre pivot window is used to help expel the excess of smoke and heat during a fire. Additionally, the system enables daily ventilation and allows light into the room.



Glass

Glass construction from outside to inside = 4H-ST14Ar-33.2T3 - the outer pane is a 4mm toughened glass, 14mm steel spacer filled with inert argon gas. The 6.8mm internal pane is an anti-burglary class of laminate 33.2.



Applications

- Head of Smoke Shaft
- Head of Stairwell

Certification

Certified and tested in accordance to EN 12101-2



Part Codes

SV-R-CP-780X1400	AOV Centre Pivot Roof Window 780x1400mm 0.9m ²
SV-R-CP-1140X1180	AOV Centre Pivot Roof Window 1140x1180mm 1m ²
SV-R-CP-1340X1400	AOV Centre Pivot Roof Window 1340x1400mm 1.5m ²

Technical Data

Frame	Pinewood
Glass Construction	Outer pane = 4mm toughened glass, 14mm steel spacer filled with inert argon gas. 6.8mm internal pane is an anti-burglary class of laminate 33.2
Geometric Free Area	1m ² or 1.5m ² (depending on vent size)
Voltage	24V DC
Opening Speed	> 60 secs
Current Consumption	1.4 Amp
Colour	Internal = Natural Pine White / External = Anthracite
Certification	EN 12101-2
Delivery Includes	1 x Vent & 1 x Actuator
Cable Dimension	2-Core

Dimensions

	W	H
SV-R-CP-780X1400	780mm	1400mm
SV-R-CP-1140X1180	1140mm	1180mm
SV-R-CP-1340X1400	1340mm	1400mm

Sizes	1000x1500mm 1000x2000mm 1200x1200mm Bespoke
Free Area	1m ² or 1.5m ²

SV-W-W1

SV-W-W1 AOV bottom hung window's are automatic natural smoke exhaust devices. The main function of smoke exhaust windows is to remove smoke, fire vapours and thermal energy from confined spaces such as communal corridors and stairwells.



Design

Various types of leaf-fillings with glazing units to meet specific user requirements. Actuator type and opening angle and direction appropriately selected to meet performance requirements.



Applications

- End of Corridor
- Head of Stairwell

Certification

Certified and tested in accordance to EN 12101-2



Part Codes

SV-W-W1-1000X1500	AOV Bottom Hung Window 1000x1500mm 1.19m ²
SV-W-W1-1000X2000	AOV Bottom Hung Window 1000x2000mm 1.63m ²
SV-W-W1-1200X1200	AOV Bottom Hung Window 1200x1200mm 1.14m ²

* Alternative sizes are available

Technical Data

Frame	Aluminium
Glass	Double Glazed (Standard) or Triple Glazed
Geometric Free Area	1m ² or 1.5m ² (depending on vent size)
Voltage	24V DC
Opening	60°
Opening Speed	> 60 secs
Current Consumption	2 - 5.2 Amp (depending on vent size)
Colour	Custom RAL colour
Certification	EN 12101-2
Cable Dimension	2-Core
Delivery Includes	1 x Vent & 2 x Actuators

Dimensions

	W	H
SV-W-W1-1000X1500	1000mm	1500mm
SV-W-W1-1000X2000	1000mm	2000mm
SV-W-W1-1200X1200	1200mm	1200mm

Sizes	800x2000mm 1000x2000mm 1200x1200mm Bespoke
Free Area	1m ² or 1.5m ²

SV-W-GL1

The SV-W-GL1 Louvre Window is preferred by many clients due to its outstanding advantages in regard to ventilation, weather tightness and thermal protection, as well as a high degree of security (burglar proof RC2). The glass louvres are framed with aluminium profiles.



Blades

Double or triple insulation glass (glass thickness 28 mm or 32 mm). Various combinations of glass with regard to thermal insulation or protection. Sandwich panels in various combinations also available.



Applications

- End of Corridor
- Head of Stairwell

Certification

Certified and tested in accordance to EN 12101-2



Part Codes

SV-W-GL1-800X2000	AOV Glazed Wall Louvre 800x2000mm 1.19m ²
SV-W-GL1-1000X2000	AOV Glazed Wall Louvre 1000x2000mm 1.54m ²
SV-W-GL1-1200X1200	AOV Glazed Wall Louvre 1200x1200mm 1.08m ²

* Alternative sizes are available

Technical Data

Frame	Aluminium profiles, thermal broken
Blades	Insulated glass Solid infill
Geometric Free Area	1m ² or 1.5m ² (depending on vent size)
Voltage	24V DC
Opening	84°
Opening Speed	> 60 secs
Current Consumption	0.7 Amp
Colour	Custom RAL colour
Certification	EN 12101-2
Cable Dimension	2-Core
Delivery Includes	1 x Vent & 1 x Actuator

Dimensions

	W	H
SV-W-GL1-800X2000	800mm	2000mm
SV-W-GL1-1000X2000	1000mm	2000mm
SV-W-GL1-1200X1200	1200mm	1200mm

Sizes	750x900mm 750x1500mm 1000x1500mm Bespoke
Free Area	0.6m ² or 1.5m ²

SV-W-D3

AOV Smoke shaft damper designed for installation into smoke control shafts and ducts to provide smoke and heat ventilation to corridors and lobbies in residential buildings. In case of fire the smoke damper in the fire zone moves to the open position and all other smoke dampers move to the closed position.



Quality

Manufactured with a galvanised casing, and fire rated blade louvres and operated by a drive open/drive close 24V AC/DC Belimo actuator. Supplied with a removable white linear grille.



Applications

- Smoke Shaft

Certification

Certified and tested in accordance to EN 12101-8



Part Codes

SV-W-D3-750X900	AOV Smoke Damper 750x900mm 0.6m ²
SV-W-D3-750X1500	AOV Smoke Damper 750x1500mm 1m ²
SV-W-D3-1000X1500	AOV Smoke Damper 1000x1500mm 1.4m ²

* Alternative sizes are available

Technical Data

Frame	Galvanised steel construction
Blades	Fire rated mineral asymmetrical blade
Geometric Free Area	0.6m ² or 1m ² (depending on vent size)
Voltage	24V DC
Opening	160°
Opening Speed	> 60 secs
Current Consumption	0.3 Amp
Colour	Mill Finish (damper) and White (cover grille)
Certification	EN 12101-8
Cable Dimension	3-Core
Delivery Includes	1 x Vent & 1 x Actuator

Dimensions

	W	H
SV-W-D3-750X900	750mm	900mm
SV-W-D3-750X1500	750mm	1500mm
SV-W-D3-1000X1500	1000mm	1500mm

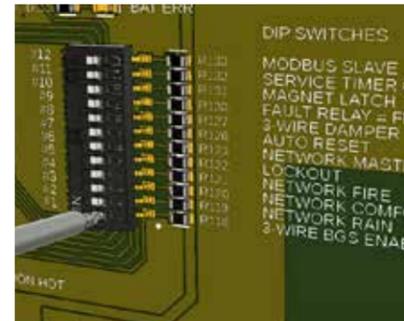
Controls



Motor Output	24V DC
Motor Lines	1
Motor Load	5 Amp / 8 Amp

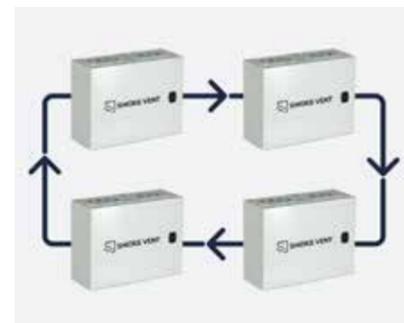
SCP

Single-zone smoke control unit. Can be linked to a fire alarm or smoke sensor for automatic opening of an AOV smoke vent(s). Manually triggered using manual call points. Facility to link several control units together to form a multi-zone system.



Easy to Configure

System parameters are simple to configure via dip switches - making it easy to program the system logic as per the desired cause and effect.



Bus Technology

Using MODBUS technology, multiple SCP control units can be networked to form larger multi-zone systems. Making it the ideal choice for larger buildings with smoke ventilation shafts and communal smoke corridors.

Part Codes

SCP-500	SCP Control Unit 24V 5 Amp
SCP-800	SCP Control Unit 24V 8 Amp

Technical Data

Primary Voltage (Input)	230V AC
Secondary Voltage (Output)	24V DC
Motor Load	5 Amp / 8 Amp
Motor Lines	1
Inputs For	Manual Call Point, Smoke Sensor, Fire Alarm, BMS, Switch, Thermostat, Wind/Rain Sensor
Operating Condition	-5°C - +40°C, max
Battery Backup	72 Hours
Size	400mm (w) x 300mm (h) x 150mm (d)
Protection Type	IP30
Delivery	1 x Control Unit, 2 x Batteries
Battery Size	2 x 12v 7Ah
Certification	EN 12101-10

Certification

Certified and tested in accordance to EN 12101-10



SCP



Key

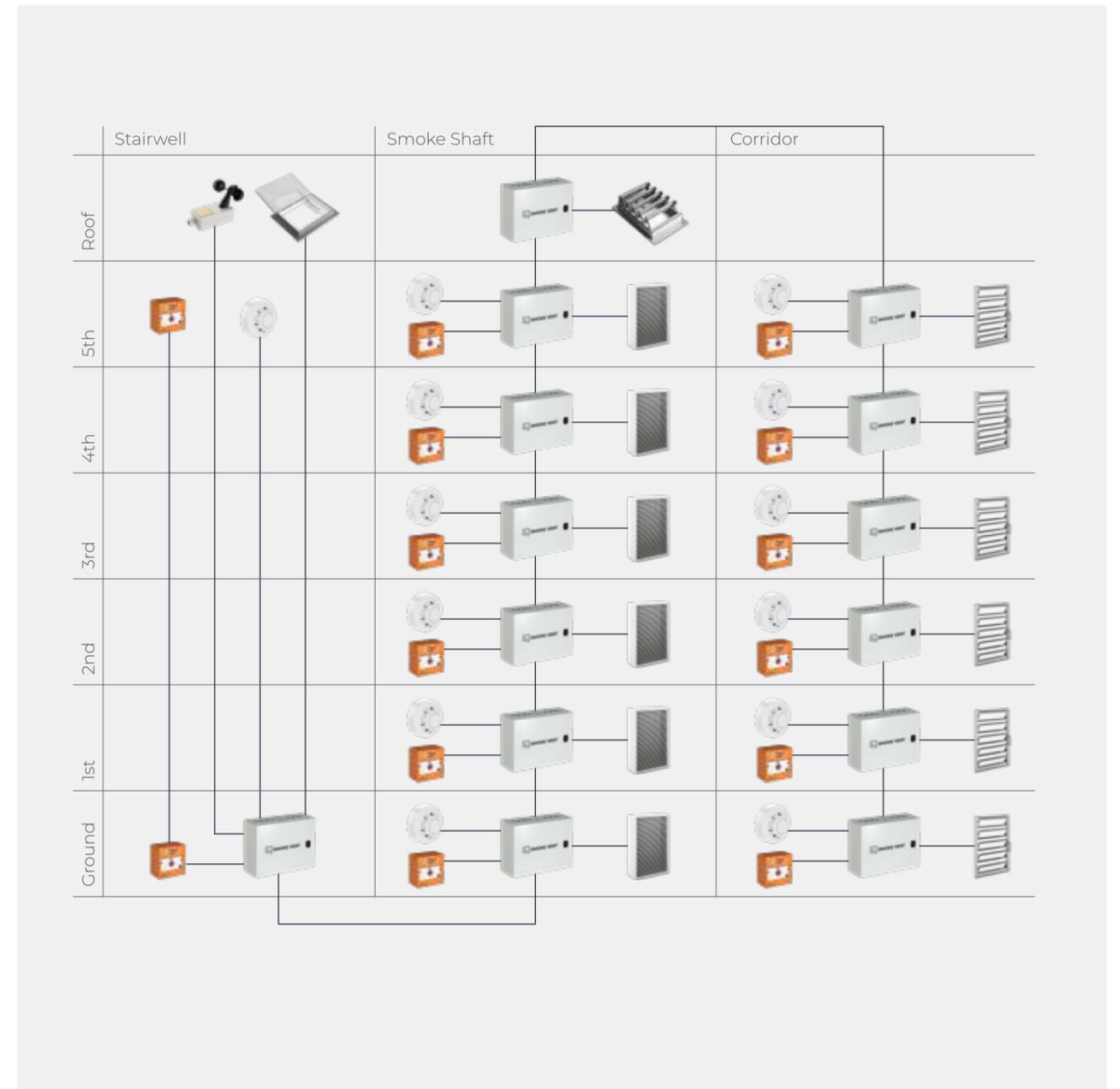
1	SSR-D Smoke Sensor	8	24V DC Smoke Vent
2	BG3/FOS Override Switch	9	BMS with MODBUS
3	BG2/FOS Override Key-Switch	10	S50 Rocker Switch
4	BG1/S Breakglass Call Point	11	RRTKEY Key Switch
5	WSC MP2 LED Indicator	12	WLA 331 Rain Sensor
6	Fire Alarm Signal (NO/C)	13	WLA 330 Wind & Rain Sensor
7	SCP (Network)	14	WLA 110 Thermostat

The SCP single-zone control unit is perfect for stairwell applications with a single AOV.

Using MODBUS technology, multiple SCP's can be networked to form larger multi-zone systems. Making it the ideal choice for larger buildings with smoke ventilation shafts and communal smoke corridors.

The SCP can also be linked to BMS systems running MODBUS. This can then allow more complex cause and effect strategies to be implemented and controlled from a 3rd party BMS system. Advanced users are no longer locked into 'standard' functionality and can enjoy the flexibility to control any element of any SCP as they choose.

Wiring Schematic



Motor Output	24V DC
Motor Lines	1 - 39
Motor Load	20 Amp / 40 Amp / 60 Amp

WSC 520/540/560

For heat and smoke ventilation (H&S) and daily comfort ventilation. Low power consumption 20A, 40A or 60A as standard per panel, more panels can easily be linked without any additional modules. For both $\pm 24V$ standard motors and/or motors with MotorLink®. Easy configuration via the built-in touch screen.



Touch Screen

Easy-to-use LCD touch screen makes the panel easy to configure, commission and maintain – without the need of a PC. System errors are described on screen to facilitate troubleshooting and initialisation.



Bus Technology

The control unit uses bus technology meaning cabling for break glass units, smoke detectors and keypads is significantly reduced compared to other types of smoke panels.

Certification

Certified and tested in accordance to EN 12101-10



Part Codes

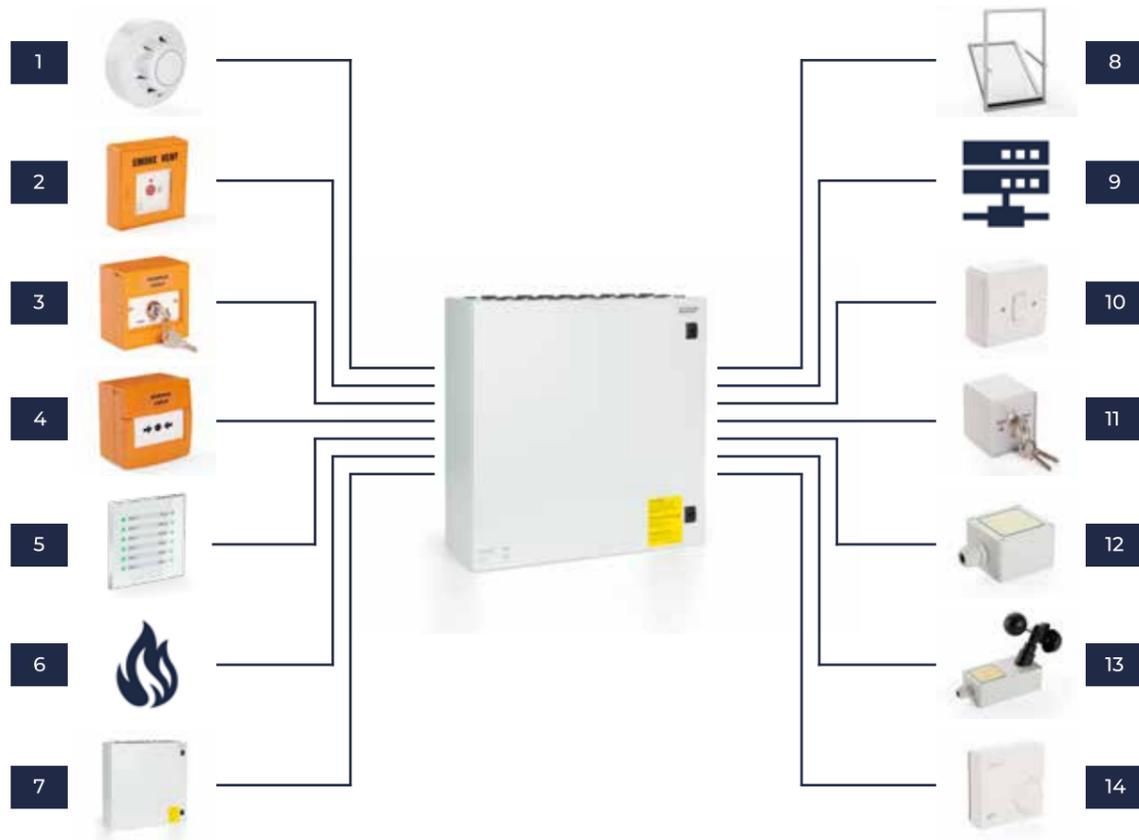
WSC520-0000	WSC 520 Control Unit 24V 20 Amp 1 Motor Line / 1 Input
WSC520-0ISO	WSC 520 Control Unit 24V 20 Amp 5 Motor Lines / 5 Inputs
WSC520-0ISS	WSC 520 Control Unit 24V 20 Amp 9 Motor Lines / 6 Inputs
WSC520-0SSS	WSC 520 Control Unit 24V 20 Amp 13 Motor Lines / 4 Inputs
WSC520-0SS0	WSC 520 Control Unit 24V 20 Amp 13 Motor Lines / 3 Inputs
WSC540-0100-0ISO	WSC 540 Control Unit 24V 40 Amp 6 Motor Lines / 9 Inputs
WSC540-0III-0III	WSC 540 Control Unit 24V 40 Amp 2 Motor Lines / 20 Inputs
WSC540-0IIS-0ISS	WSC 540 Control Unit 24V 40 Amp 14 Motor Lines / 14 Inputs
WSC540-0ISO-0ISO	WSC 540 Control Unit 24V 40 Amp 10 Motor Lines / 10 Inputs
WSC540-0ISS-0ISS	WSC 540 Control Unit 24V 40 Amp 18 Motor Lines / 12 Inputs
WSC540-0SSS-0SSS	WSC 540 Control Unit 24V 40 Amp 26 Motor Lines / 8 Inputs
WSC560-0ISO-0ISO-0ISO	WSC 560 Control Unit 24V 60 Amp 15 Motor Lines / 15 Inputs
WSC560-0ISS-0ISS-0ISS	WSC 560 Control Unit 24V 60 Amp 27 Motor Lines / 18 Inputs
WSC560-0ISS-0SSS-0SSS	WSC 560 Control Unit 24V 60 Amp 35 Motor Lines / 14 Inputs
WSC560-0SSS-0SSS-0SSS	WSC 560 Control Unit 24V 60 Amp 39 Motor Lines / 12 Inputs

* Additional versions are available

Technical Data

Primary Voltage (Input)	230V AC
Secondary Voltage (Output)	24V DC
Motor Load	20 Amp (WSC 520) / 40 Amp (WSC 540) / 60 Amp (WSC 560)
Motor Lines	1-39
Inputs For	Manual Call Point, Smoke Sensor, Fire Alarm, BMS, Switch, Thermostat, Wind/Rain Sensor
Operating Condition	-5°C - +40°C, max
Battery Backup	72 Hours
Size	380x600x210mm (WSC 520)/ 600x600x210mm (WSC 540) / 1000x760x210 mm (WSC 560)
Protection Type	IP54
Delivery	1 x Control Unit, 2 x Batteries
Battery Size	12V 18Ah
Certification	EN 12101-10

WSC 520/540/560



Key

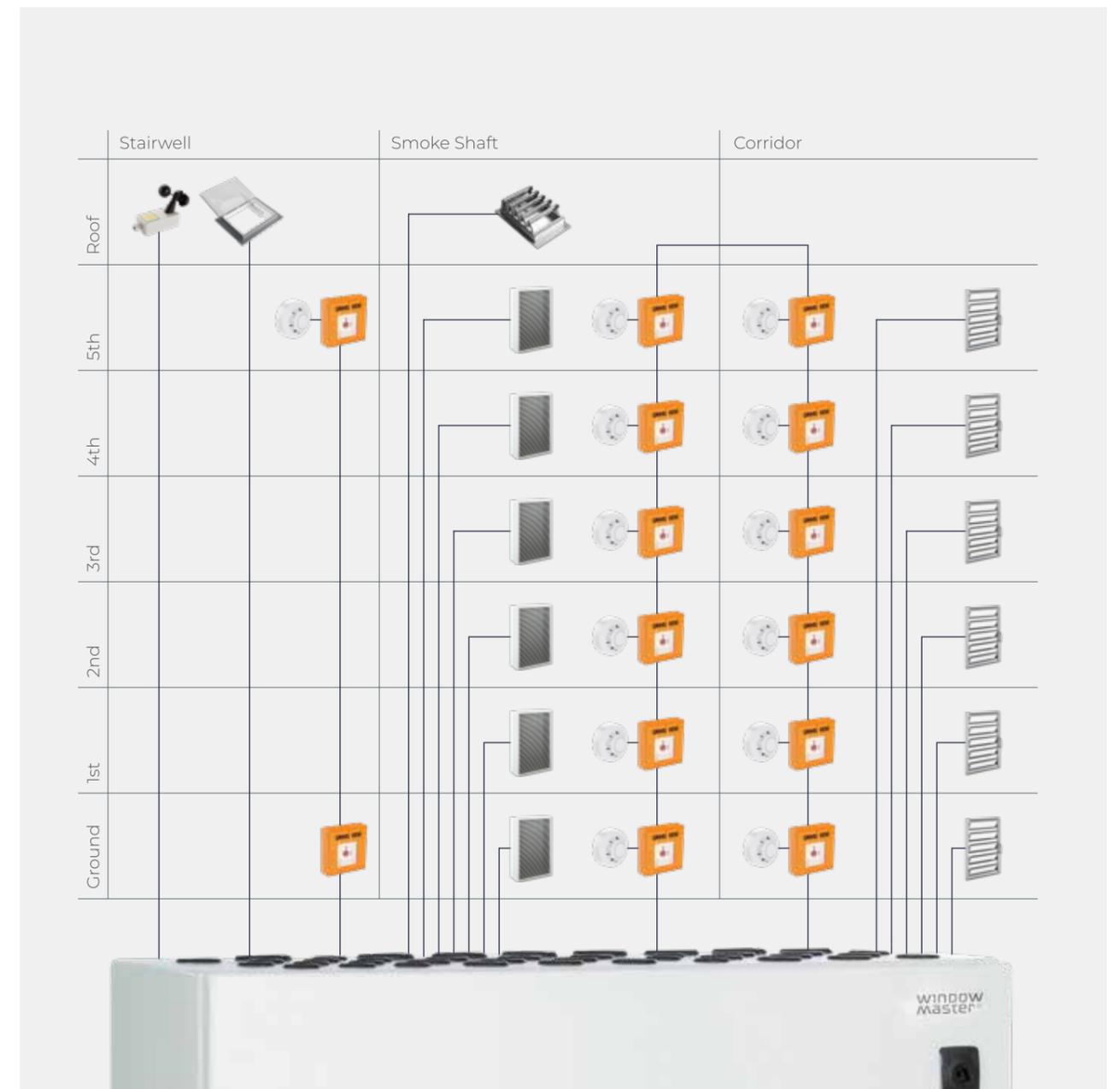
1	SSR-D Smoke Sensor	8	24V DC Smoke Vent
2	WSK 501 Override Switch	9	BMS with MODBUS
3	BG2/FOS Override Key-Switch	10	S50 Rocker Switch
4	BG1/S Breakglass Call Point	11	RRTKEY Key Switch
5	WSC MP Mimic Panel	12	WLA 331 Rain Sensor
6	Fire Alarm Signal (NO/C)	13	WLA 330 Wind & Rain Sensor
7	SCP (Network)	14	WLA 110 Thermostat

FlexiSmoke™ is a range of modular smoke control panels for the control of $\pm 24V$ DC and MotorLink® window actuators in large and medium-sized areas, e.g. shopping-centres, schools and sports halls.

With the combination of several panels, FlexiSmoke™ can be used in very large buildings or areas.

Up to 39 smoke zones and comfort groups can be implemented, depending on panel variant type.

Wiring Schematic



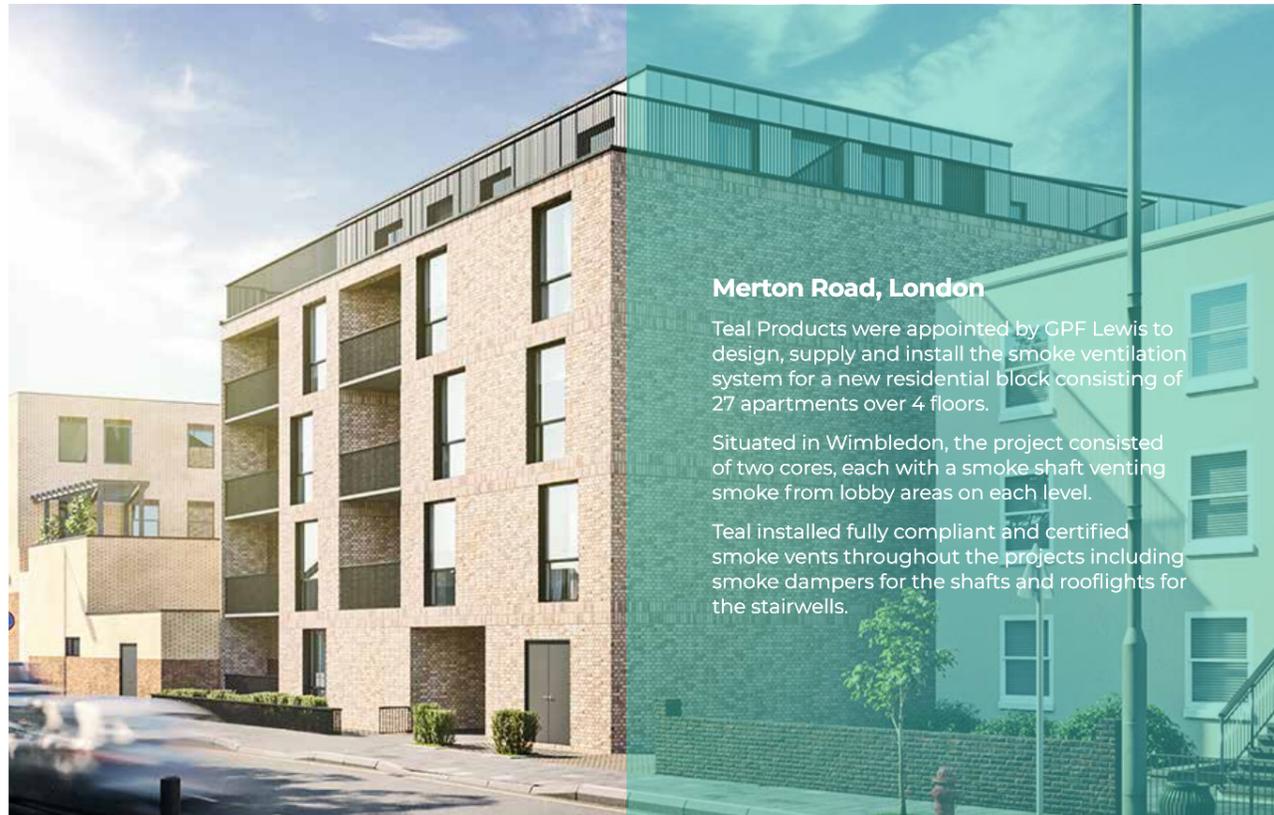
Accessories

<p>BG1/S Breakglass Call Point</p> 	<p>BG1/FOS Override Switch</p> 	<p>BG2/FOS Override Key-Switch</p> 
<p>BG3/FOS Override Switch</p> 	<p>Chain Actuator (Various Types Available)</p> 	
<p>WSK 501 Override Switch</p> 	<p>WSC MP2 LED Indicator</p> 	<p>SSR-D Smoke Sensor</p> 

<p>WLA 331 Rain Sensor</p> 	<p>WLA 330 Wind & Rain Sensor</p> 	<p>S50 Rocker Switch</p> 
<p>WSC MP Mimic Panel</p> 		<p>RRTKEY Key Switch</p> 
<p>Linear Actuator (Various Types Available)</p> 		<p>WLA 110 Thermostat</p> 
		<p>CTS1 CO2 Sensor</p> 

Case Studies

Over the years we have had the privilege of working on numerous smoke ventilation projects from high-rise apartment buildings, to film studios and hospitals. Here are examples of just a few of them.



Merton Road, London

Teal Products were appointed by GPF Lewis to design, supply and install the smoke ventilation system for a new residential block consisting of 27 apartments over 4 floors.

Situated in Wimbledon, the project consisted of two cores, each with a smoke shaft venting smoke from lobby areas on each level.

Teal installed fully compliant and certified smoke vents throughout the projects including smoke dampers for the shafts and rooflights for the stairwells.



90 High Road, Benfleet

Teal Products were approached by the electrical contractor on the project to help design, supply and commission the natural smoke ventilation system for the communal corridors and stairwell areas.

As a registered member of the IFC, our design team were able to specify a fully certified AOV and controls package to suit the building layout and fire strategy. Ensuring all products met the latest product standards and the system complies with current building regulations.



Centenary House, London

Situated in Walthamstow, the project consisted of two cores, each with a smoke shaft venting smoke from lobby areas on each level.

Teal installed fully compliant and certified smoke vents throughout the projects including smoke dampers for the shafts and rooflights for the top corridors and stairwells.



Rebellion Film Studios, Oxford

The existing stairwell smoke vents had failed and Rebellion approached Teal to replace them with new fully compliant smoke vents. The project was made particularly challenging due to the location of the existing roof vents, but Teal were able to overcome this and install a new compliant system without any issues.

The project consisted of two stairwells, each with a roof smoke vent. Teal installed the new roof vents and connected to new single zone control panels and call points.



Salus Ward, Torbay

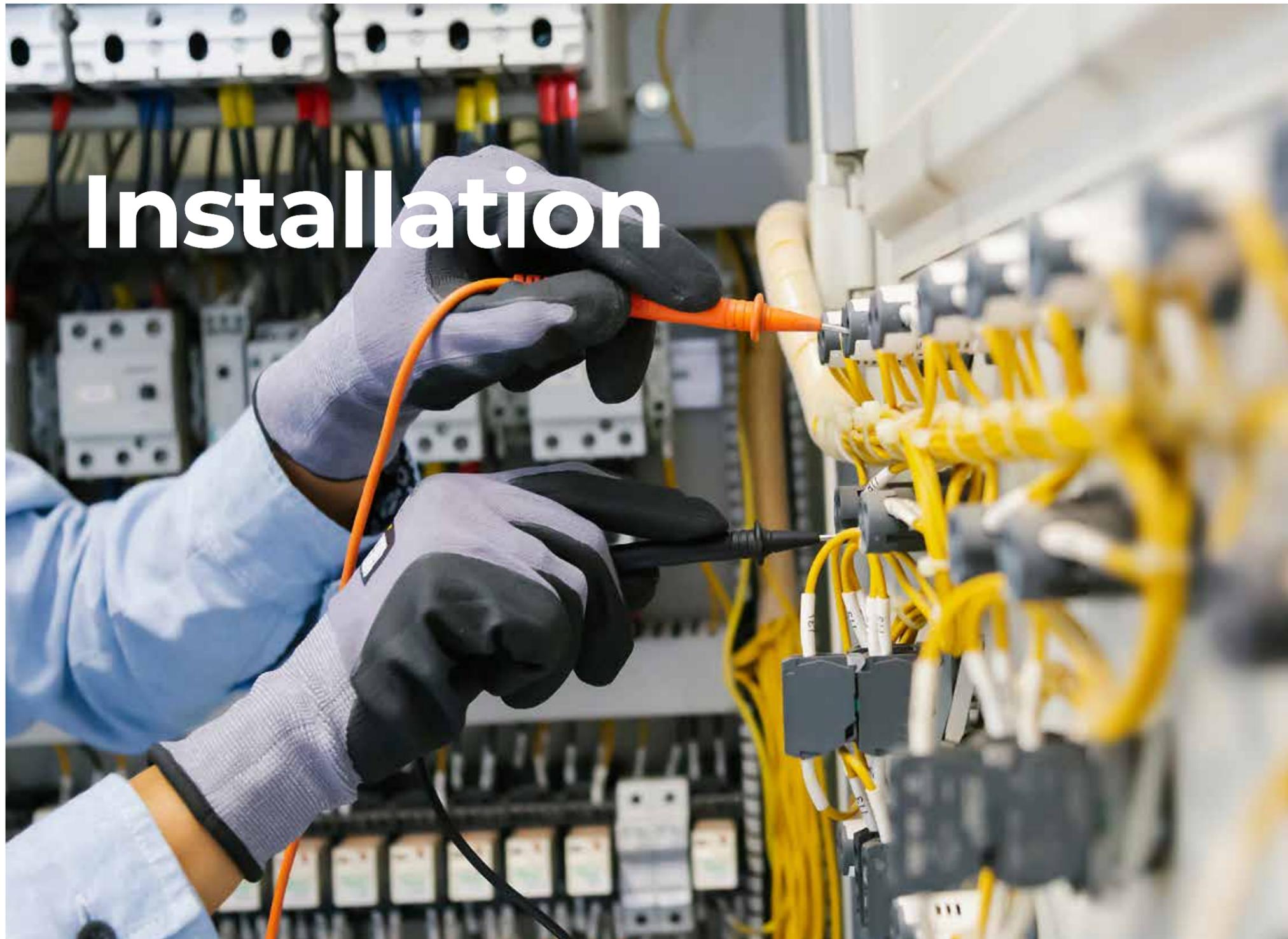
A new £12.5m mental health unit at Torbay Hospital that has been created to tackle the shortage of beds for mental health patients in Devon.

Teal were instructed to install roof 7no. roof AOV's to ventilate the corridors and stairwell areas throughout the new ward. Our SV-R-RL1 roof hatches (with insulated aluminium lid) were installed and connected to a WSC 520 multi-zone control panel to create a fully compliant smoke ventilation system.



Bellair House, Havant

The existing system was based on an old, uncompliant design which caused a major risk to the residents. Teal Products were tasked to bring the building up to compliance. We replaced all of the existing magnetic release single glazed louvres, with brand new SV-W-GL1 double glazed louvres that are compliant to EN12101-2. A brand new open protocol control system was also added to ensure the building was zoned correctly.



Installation

WindowMaster Certified Partner

As well as being the UK's largest stockist of WindowMaster's natural and smoke ventilation products, Teal Products are also a WindowMaster Certified Partner for supply and installation. Making us the go to supplier or contractor for your next natural or smoke ventilation project.



Certified partner



IFC Certification

Successfully completed the installation & commissioning requirements of IFCC scheme SDI19 "requirements for contractors installation smoke control systems". This includes the verification/inspection of fire strategy verification, system & installation of smoke control systems, the assessment an verification of the quality control system.



CHAS Accreditation

Demonstrating compliance with the CHAS standards in line with SSIP Core Criteria and UK H&S Legislation and have been awarded accreditation to the requirements of the CDM Regulations 2015.

Services

Have you been asked to supply smoke ventilation equipment on your next project and don't know where to start? Our design and technical teams are here to help.



Design

Be it a site meeting or video call our design team are always available to discuss your project, whatever the project size. We are continuously reviewing the latest safety standards and legislation to give you and your client peace of mind. Contact our design team for more information.



Manufacture

We manufacture a range of smoke ventilation products. With over 20 years in the industry our goal is to continuously develop an innovative and customer focused product range while meeting all relevant product standards. Please contact our technical team for more information.



Product Training

Training courses on our natural and smoke ventilation product range are held at our dedicated training center in Cheltenham, Please contact our sales team for more information.



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