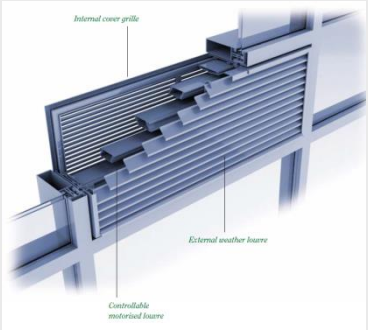
Annex I
Solutions and technology products

Vent

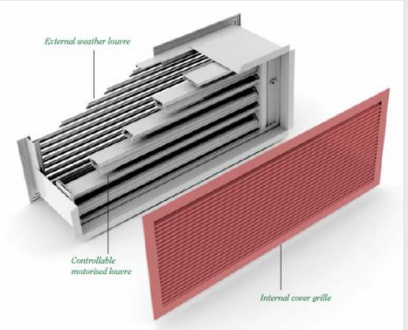
Aircool wall ventilator

http://www.passivent.com/aircool.html

For masonry wall



For window/curtain walling

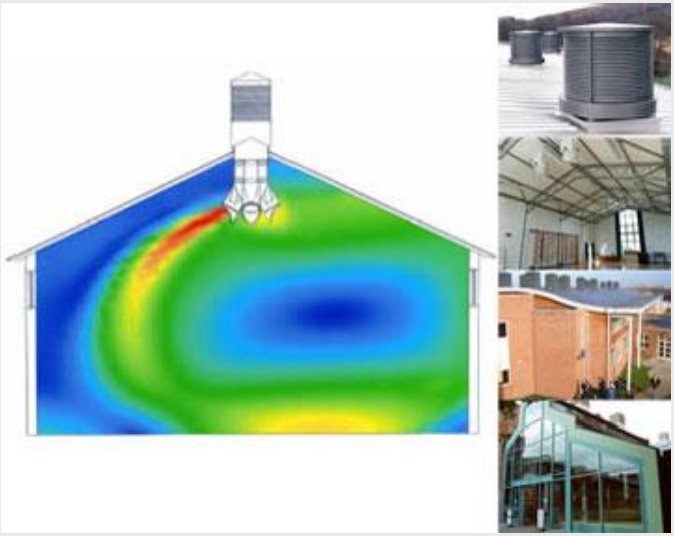


Dimensions	heights 255 up to 1490mm lengths 460 up to 2035mm wall thickness from 190mm upwards
Applications	below a window and behind the dry lining fresh air intake in suspended ceiling
Actuators	24V actuators
Controls	Passivent' s control s or EMS
Air leakage performance	0.57 m^3/hour/m at 50Pa 9.7m^3/hour/m^2 at 50Pa
Acoustic performance	internal noise reduction hoods and single acoustic chevrons, providing a weighted normalized sound level difference Dn,e,w of 30dB (when open) single/double internal acoustic chevrons, providing a weighted normalized sound level difference Dn,e,w of 22dB/26dB (when open)
Fire performance	Class 1 rating (BS 476: Part 7: 1987)
Weather performance	watertight at 1000Pa pressure 98.6% rain rejection of the outside louvers
Thermal insulation	U = 1.6 W/m^2K when closed in ceiling applications U = 1.1 W/m^2K when closed in wall applications
Estimated pressure drop	-
Max air velocity	-

Wind catcher

Airscoop displacement ventilator

http://www.passivent.com/airscoop.html

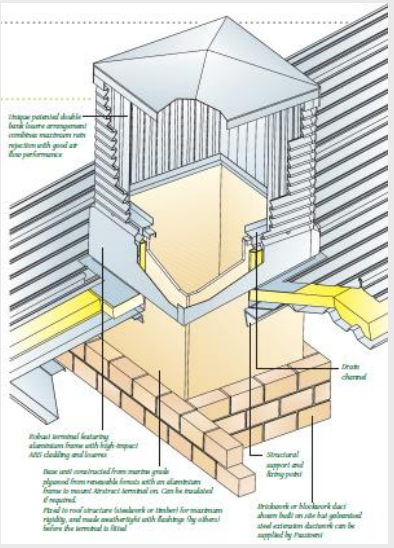


Dimensions	575 x 575mm
Applications	designed for large or deep-plan commercial buildings up to two storeys, where direct ventilation through windows or perimeter vents is not possible. also suitable for large open buildings such as sports halls, auditoriums and industrial buildings
Actuators	Four controlled dampers
Controls	Passivent' s controls
Air leakage performance	-
Acoustic performance	Basic systems 32dB (Dn,e,w). Direct Air Dispersal systems 34dB (Dn,e,w). Remote Air Dispersal ducted systems up to 42dB (Dn,e,w).
Fire performance	-
Weather performance	Resistant to continuous wind loads at 51 m/s
Thermal insulation	U = 2.0W/m²K when closed
Estimated pressure drop	-
Max air velocity	-

Passive stack

Airstract roof ventilator

http://www.passivent.com/airstract.html



Dimensions	Square and rectangular from 575x575mm to 1250x1250mm Circular Φ = 1100-1400-1700mm
Applications	Up to 45 roof pitch for square and rectangular ventilator Up to 30 roof pitch for circular ventilator
Actuators	Façade vents
Controls	Passivent’ s controls
Air leakage performance	-
Acoustic performance	30dB (Dn,e,w)
Fire performance	AA classification (BS 476: Part 3: 2004)
Weather performance	Resistant to continuous wind loads at 50 m/s
Thermal insulation	U = 2.0W/m²K when closed
Estimated pressure drop	Cd = 0.53
Max air velocity	-

Vent

NVS Aluminium Upstand louvre

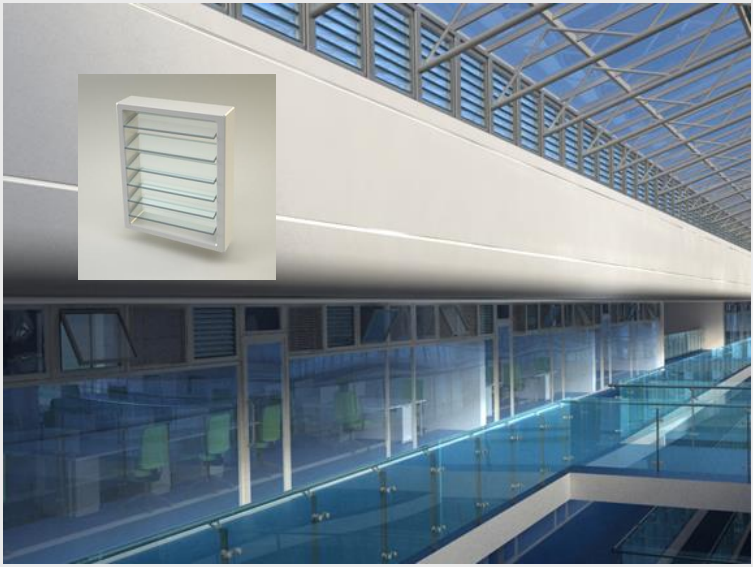
http://www.secontrols.com/

Dimensions	
Applications	atria
Actuators	
Controls	
Air leakage performance	
Acoustic performance	
Fire performance	
Weather performance	
Thermal insulation	
Estimated pressure drop	
Max air velocity	

Vent

NVS Glazed Louvre

http://www.secontrols.com/



Dimensions	Opening angle of 90°
Applications	Façade 24 to 40 mm thickness curtain walls
Actuators	Louvre motors
Controls	
Air leakage performance	
Acoustic performance	
Fire performance	
Weather performance	
Thermal insulation	
Estimated pressure drop	
Max air velocity	

Vent

NVS Acoustic AOV Louvre

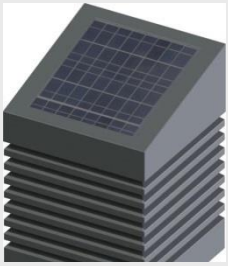
http://www.secontrols.com/

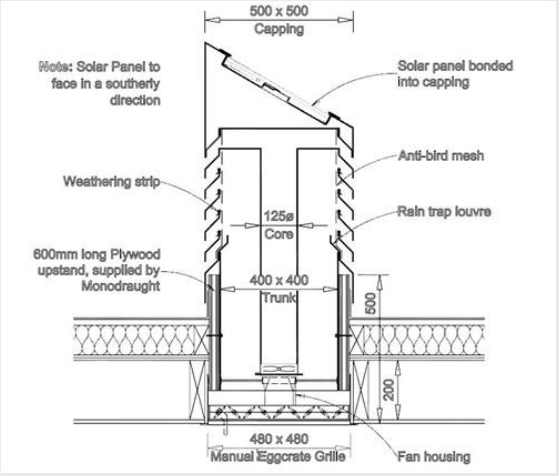
Dimensions	Opening angle of 90°
Applications	Façade or internal walls
Actuators	
Controls	
Air leakage performance	
Acoustic performance	
Fire performance	
Weather performance	
Thermal insulation	
Estimated pressure drop	
Max air velocity	

Passive stack

Residential Sola-Boost

http://www.monodraught.com/products/natural-ventilation/5/residential-sola-boost/



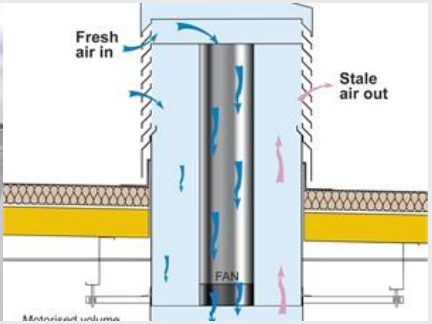


Dimensions	Opening angle of 90° 506x506mm
Applications	Residential roof
Actuators	Grille
Controls	Manual control
Air leakage performance	
Acoustic performance	BS EN 20140-10:1992
Fire performance	BS 476-3:2004 / BS 476-24:1987
Weather performance	
Thermal insulation	
Estimated pressure drop	0.09m² free area per face
Max air velocity	

Passive stack

Sola-Boost Classic

http://www.monodraught.com/products/natural-ventilation/5/residential-sola-boost/



Dimensions	Square, circular 95, 115, 125, 145, 155, 185, 225
Applications	Any area
Actuators	Grille
Controls	Manual control
Air leakage performance	
Acoustic performance	BS EN 20140-10:1992
Fire performance	BS 476-3:2004 / BS 476-24:1987
Weather performance	
Thermal insulation	
Estimated pressure drop	0.140,0.192, 0.252, 0.320, 0.396, 0.572, 0.896 m² free area per face
Max air velocity	

Wind catcher

Wind catcher classic

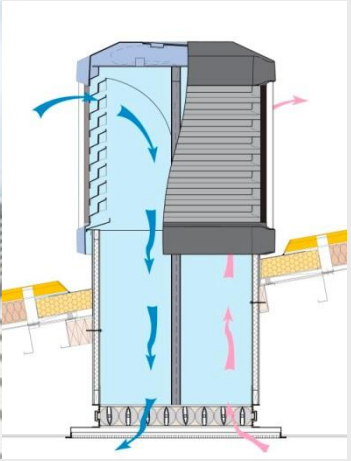
http://www.monodraught.com/products/natural-ventilation/9/windcatcher-classic-circular/

Dimensions	Circular Φ 95, 115, 125, 145, 155, 185, 225 Square 5, 115, 125, 145, 155, 185, 225 Rectangular, oval, bespoke
Applications	Many areas
Actuators	
Controls	
Air leakage performance	
Acoustic performance	BS EN 20140-10:1992
Fire performance	Class 1 fire rated resin BS 476-3:2004 / BS 476-24:1987
Weather performance	
Thermal insulation	
Estimated pressure drop	0.154, 0.201, 0.255, 0.314, 0.484, 0.380, 0.804m² free area per quadrant face
Max air velocity	

Wind catcher

Wind catcher X-Air

http://www.monodraught.com/products/natural-ventilation/15/windcatcher-x-air/



Dimensions	110, 140, 170, 200
Applications	Flat roofs or roof pitch up to 30°
Actuators	Variable louvers Ceiling grille
Controls	
Air leakage performance	
Acoustic performance	BS EN 20140-10:1992 ISO 140-10:1991
Fire performance	DIN EN 13501-1: 2010-01 (Class E)
Weather performance	
Thermal insulation	
Estimated pressure drop	0.154, 0.201, 0.255, 0.314, 0.484, 0.380, 0.804m² free area per quadrant face
Max air velocity	

Vent

Ventsair
Wall Mounted Louvres

http://www.monodraught.com/products/natural-ventilation/20/ventsair-wall-mounted-louvres/

Dimensions	Min 171mm height for glazed-in variants
Applications	Wall
Actuators	
Controls	
Air leakage performance	
Acoustic performance	
Fire performance	
Weather performance	
Thermal insulation	
Estimated pressure drop	Physical Free area approximately 40%
Max air velocity	

Vent

Ventsair
Wall Mounted Louvres

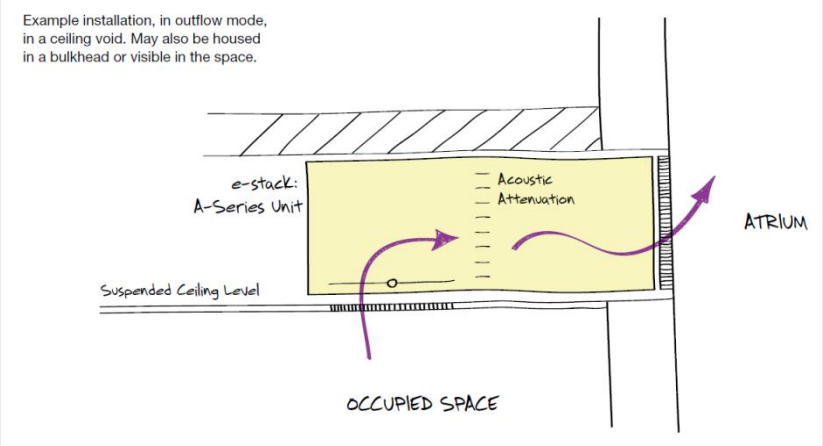
http://www.monodraught.com/products/natural-ventilation/20/ventsair-wall-mounted-louvres/

Dimensions	Min 171mm height for glazed-in variants
Applications	Wall
Actuators	
Controls	
Air leakage performance	
Acoustic performance	
Fire performance	
Weather performance	
Thermal insulation	
Estimated pressure drop	Physical Free area approximately 40%
Max air velocity	

Stack

e-stack: A-series

http://www.breathingbuildings.com/products/a-series

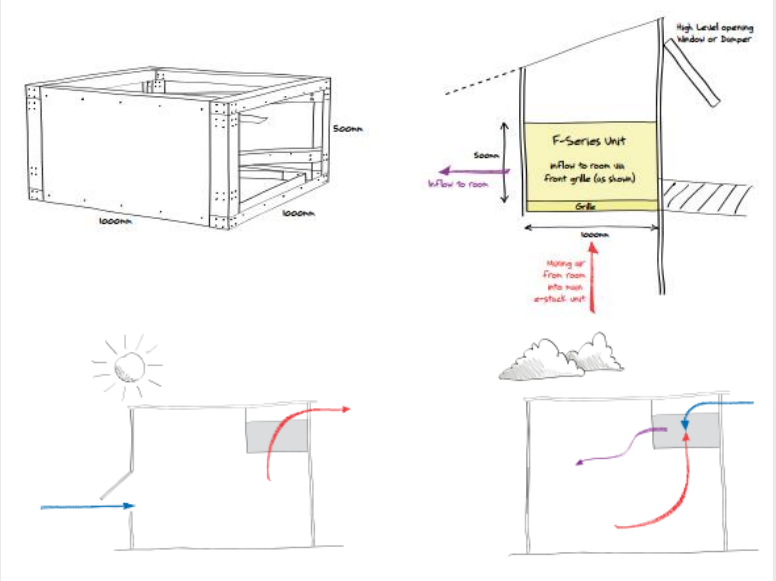


Dimensions	A-500: 1810mm (L) x 1338mm (W) x 503mm (H) A-400: 1825mm (L) x 1500mm (W) x 410mm (H)
Applications	bulkhead, suspended ceiling or left visible within the atrium space
Actuators	High level atrium openings
Controls	The Central Control Panel mounted remotely from the units is typically used to control all A-Series units connected to a single atrium. The Central Control Panel also provides a control signal to actuate high level openings.
Air leakage performance	3.75 $m^3/hr/m^2$
Acoustic performance	BS EN 20140-10:1992, ISO 140-10:1991 and BB93 – Acoustic Design of Schools

Stack

e-stack: F-series

http://www.breathingbuildings.com/products/f-series

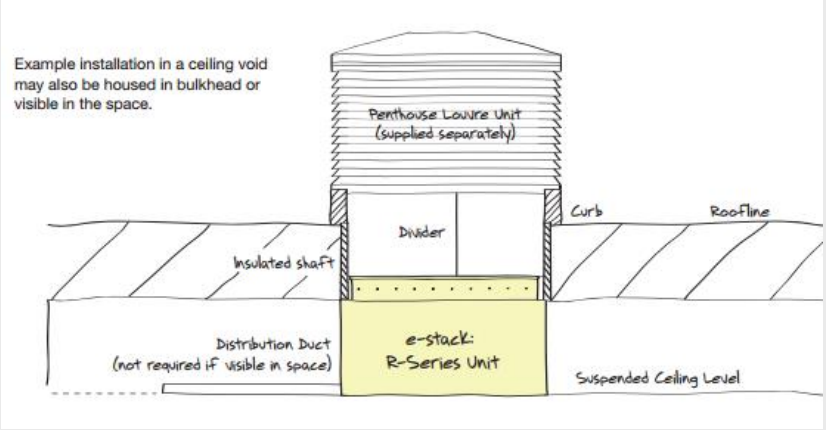


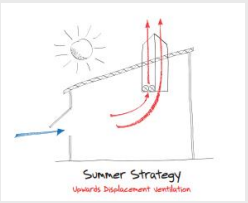
Dimensions	1000mm (L) x 1000mm (W) x 500mm (H)
Applications	Designed for rooms occupied by 10 to 35 people, which have access to the exterior and a floor to ceiling height of at least 3.5 m in part of the room.
Actuators	High level opening window or damper on facade
Controls	Internal controller to operate fans and dampers in response to measured environmental conditions. Additional control signals for automated high / low level openings can be supplied if required.
Air leakage performance	3.75 $m^3/hr/m^2$
Acoustic performance	-

Stack

e-stack: R-series

http://www.breathingbuildings.com/products/r-series



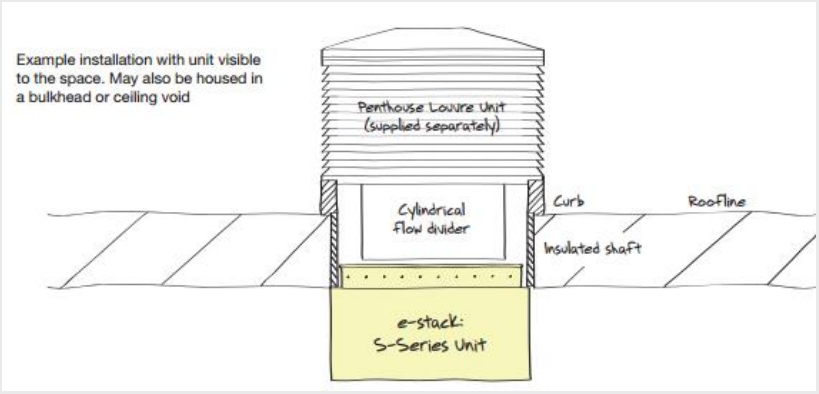


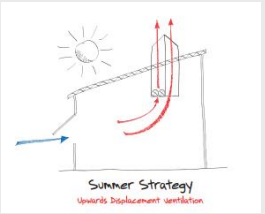
Dimensions	1600mm (L) x 950mm (W) x 500mm (H) (630mm high incl. damper housed in shaft) Shaft aperture 1550mm x 900mm
Applications	Designed for rooms occupied by 10 to 35 people, which have access to the exterior and a floor to ceiling height of at least 3.5 m in part of the room.
Actuators	Damper actuated insulating low-leakage volume control damper with fully modulating rotary actuator
Controls	Internal controller to operate fans and dampers in response to sensed environmental conditions. Additional control signals for automated high / low level openings can be supplied if required .
Air leakage performance	3.75 $m^3/hr/m^2$
Acoustic performance	-

Stack

e-stack: S-series

http://www.breathingbuildings.com/products/s-series



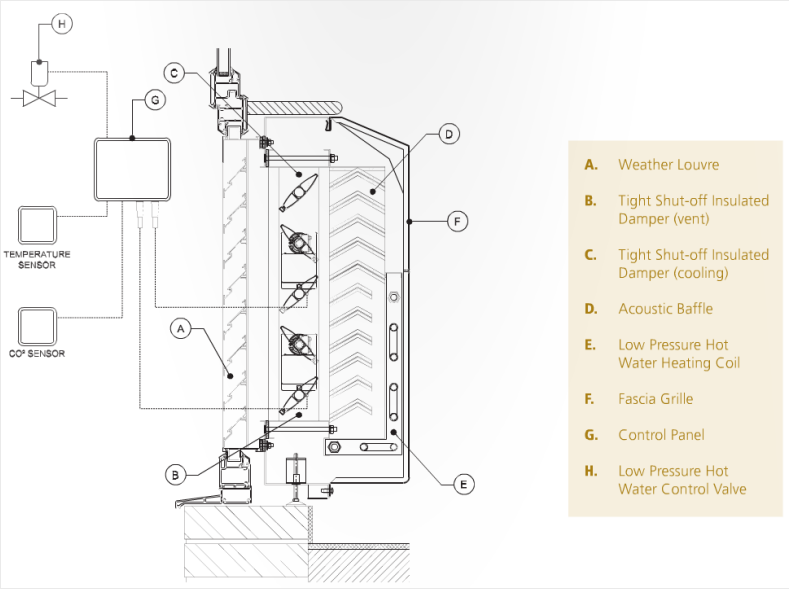


Dimensions	S-1500: 1575mm (L) x 1575mm (W) x 500mm (H) S-1200: 1275mm (L) x 1275mm (W) x 500mm (H) (both 630mm high incl. damper housed in shaft) S-1500: Shaft aperture 1500mm x 1500mm with cylindrical flow divider S-1200: Shaft aperture 1200mm x 1200mm with cylindrical flow divider
Applications	Suited to large and high heat gain spaces
Actuators	Actuated insulating low-leakage volume control dampers with fully modulating rotary actuator
Controls	Internal controller to operate fans and dampers in response to sensed environmental conditions. Additional control signals for automated high / low level openings can be supplied if required.
Air leakage performance	3.75 $m^3/hr/m^2$
Acoustic performance	-

Vent

Wall unit

http://www.grille.co.uk/natural-ventilation.html

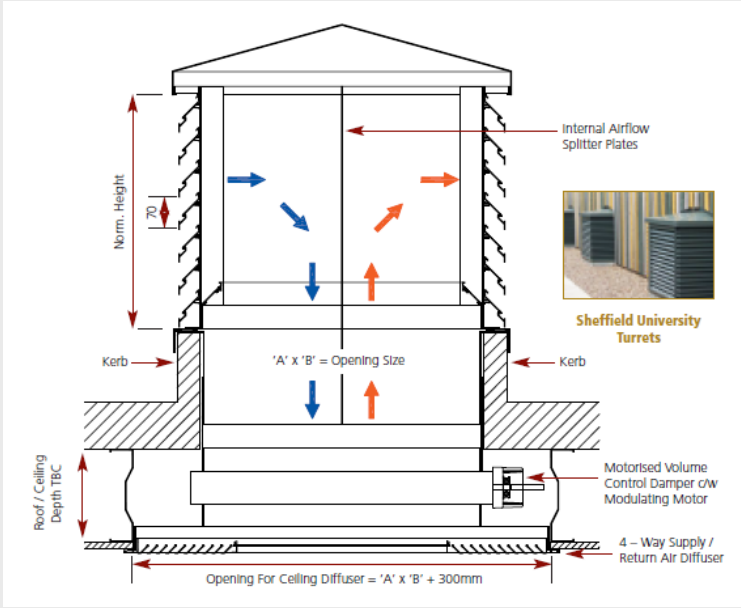


Dimensions	910 mm – 1360 mm - 1670 mm
Applications	Commercial and educational buildings
Actuators	Damper
Controls	Intelicontrol
Air leakage performance	0.72 – 1.07 - 1.27 – l/sec at 50 Pa
Acoustic performance	34 noise reduction
Fire performance	
Weather performance	
Thermal insulation	
Estimated pressure drop	
Max air velocity	

Stack

Penthouse Turret

http://www.grille.co.uk/natural-ventilation.html

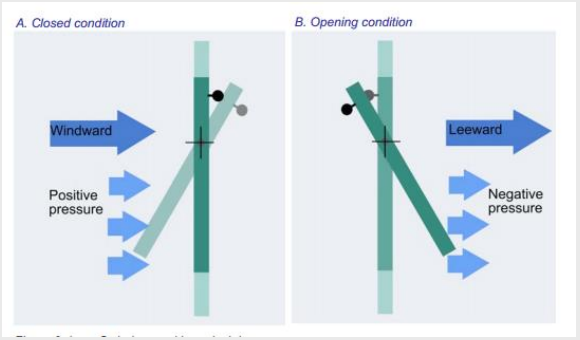


Dimensions	No size restrictions
Applications	Commercial and educational buildings
Actuators	Damper
Controls	Intelicontrol
Air leakage performance	0.72 – 1.07 - 1.27 – l/sec at 50 Pa
Acoustic performance	34 noise reduction
Fire performance	
Weather performance	louvre blades will achieve Class B (0.95 - 0.989% Effectiveness) in accordance with European Standard. EN13030 : 2002
Thermal insulation	
Estimated pressure drop	
Max air velocity	

Window

Swindow

http://alumi.st-grp.co.jp/english/company/building.html



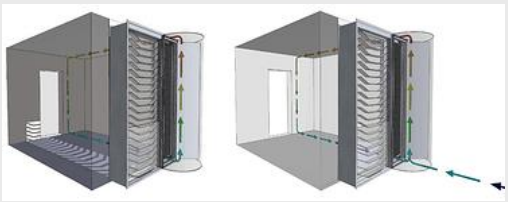
Dimensions	
Applications	facade
Actuators	
Controls	Self-adjusting opening height The basic configuration consists vof a horizontally pivoted window that is hinged just above mid-height. When opened, the weight of the window is balanced with a counterweight located at the top of the window. The Swindow is at 45° from vertical in the open position when the wind is calm. It then starts to move when the wind blows. The Swindows located on the windward side automatically react to the wind speed, decreasing the opening angle; whilst the Swindows located on the leeward side, due to the negative pressure, tend to increase the opening angle
Air leakage performance	
Acoustic performance	
Fire performance	

Window

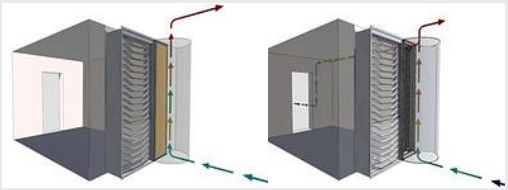
Jee

http://solartrap.wix.com/jeewindow

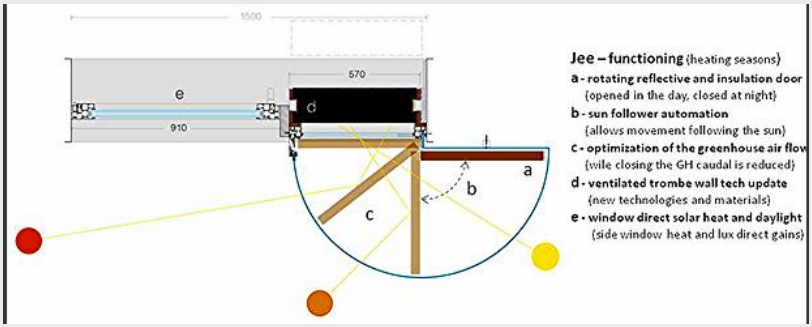
SOLAR TRAP - ARCHITECTURE



Mid-season mode



Summer mode

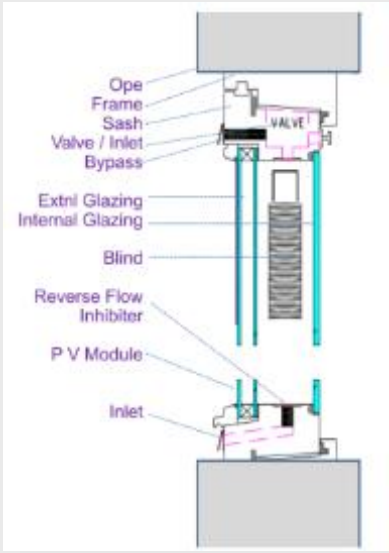


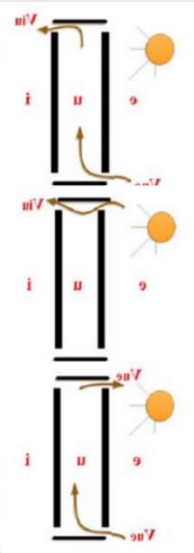
Dimensions	1.5m x 2m
Applications	facade
Actuators	Rotating reflective and insulation door
Controls	
Air leakage performance	
Acoustic performance	

Window

CLIMAWIN

http://www.climawin.de





Dimensions

Applications atria

Actuators

Controls

Air leakage performance

Acoustic performance

Fire performance

Weather performance

Thermal insulation

Estimated pressure drop

Max air velocity