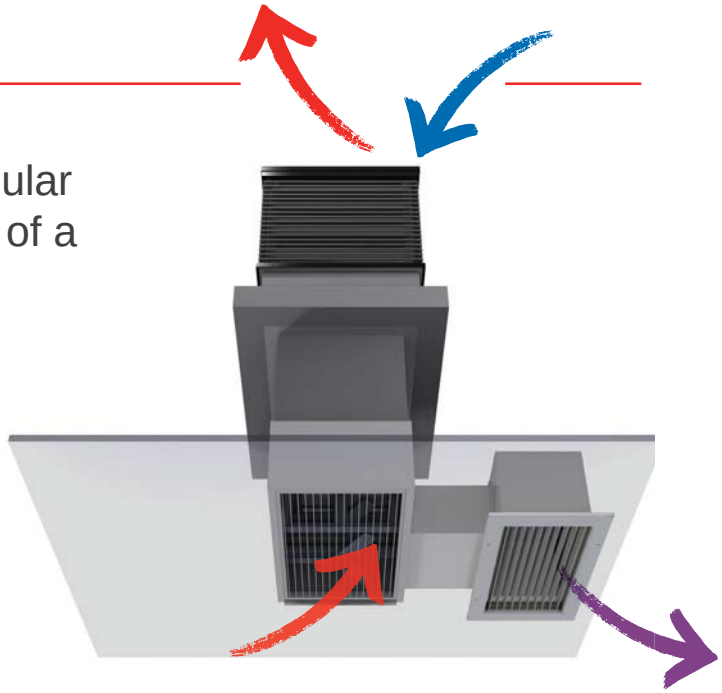
The R Series unit is a ceiling mounted unit that has been designed to...

ventilate a room with occupancies from 10-35 people.

The split shaft provides inflow and outflow in winter and combines with opening windows in the summer to create a stack effect. Integrated fans mitigate cold draughts in a low energy way delivering appropriate ventilation and superb thermal comfort with fan boost and night cooling as standard.

R Series

The R Series is one of our most popular units. Designed for a space the size of a standard 55-65m^2 room, ventilation is provided through a split shaft giving access to the roof



Product Information

Features

- Low energy mixing fans to mitigate against cold draughts in winter
- Summer exhaust boost mode
- Night cooling
- Insulated volume control damper ensures appropriate ventilation rates
- Internal temperature sensor with integrated CO2 sensor
- External temperature sensor
- Integral control responds to environmental conditions
- Ready fitted mounting brackets
- Three choices of mixed air delivery direction
- Key switch for automatic operation; test; off

Options

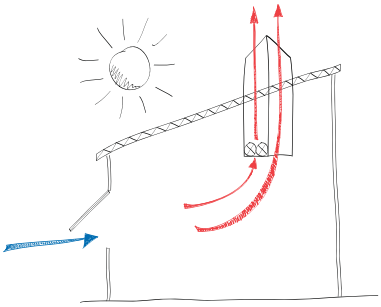
- Penthouse louvre or mushroom terminal
- Integrated noise attenuation unit offering 33dB D_{new} for noisy sites, more available on request
- Patented heating control strategy ensures minimum energy use
- Control signal for automated actuation of low level windows or dampers
- Modbus link for integration into wider Building Management Systems (BMS)
- Eggcrate grilles

Air Flow Strategies

Summer Mode

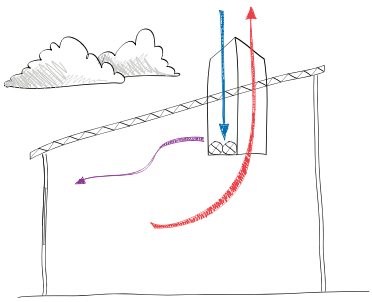
When it is warm outside the system operates in upflow displacement mode, using the stack effect to achieve high air flow rates and keep the room at a pleasant temperature.

Fan boost and night cooling modes offer greater thermal comfort in exceptional summer conditions.

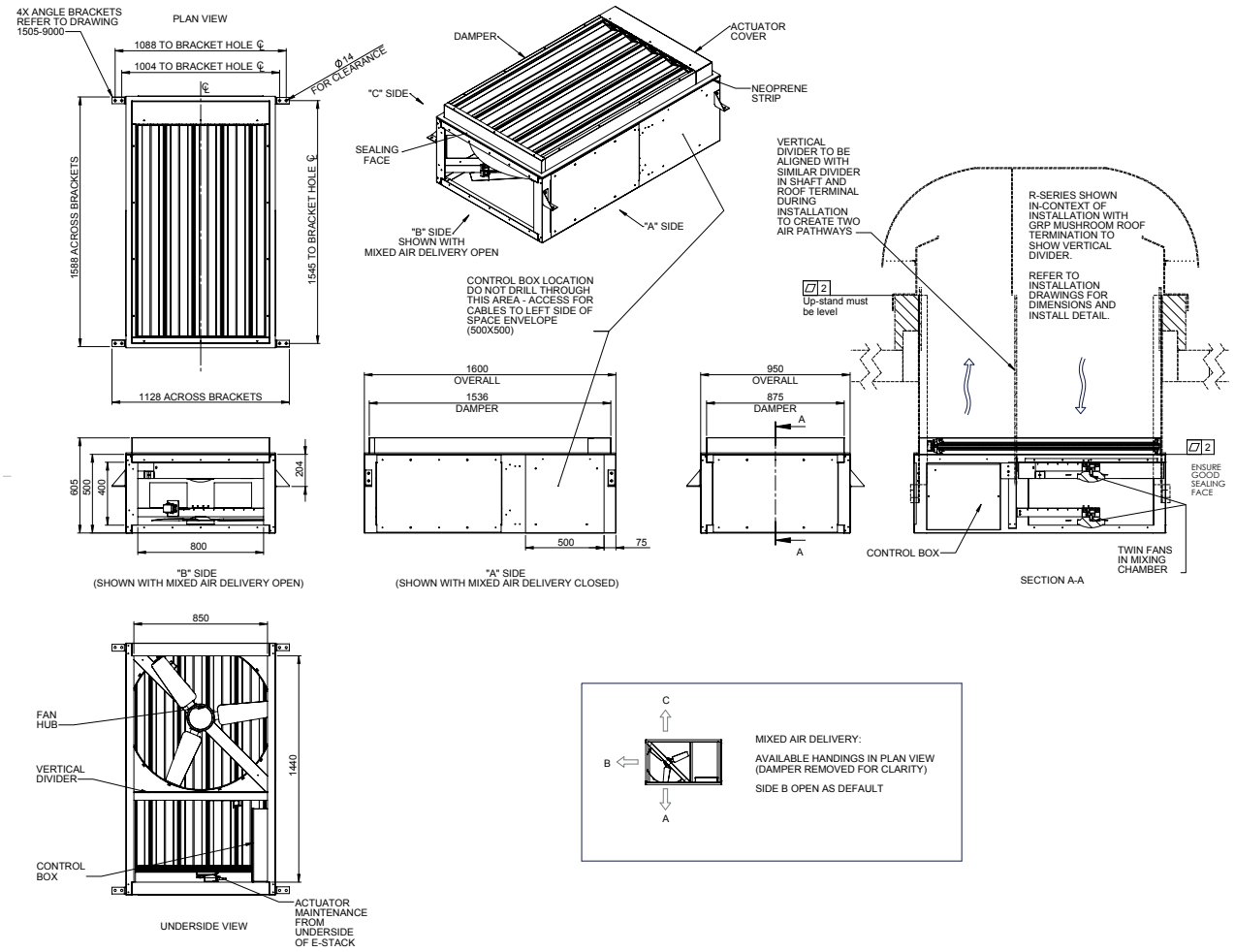


Winter Mode

When the outside temperature becomes too low to bring directly onto the occupants the R Series unit operates as inflow and outflow. The fans in the unit pre-mix the incoming air with air from within the room, preventing the need for wasteful pre-heating.



R Series Dimensioned Drawing



Dimensions	
H	500 mm
D	950 mm
W	1,600 mm
Weight	110 Kg
Physical area	0.75 m^2
Effective Area (A*)	0.6 m^2

Electrical	
Power Rating	0.1 kW
Voltage	230V AC (+- 10%)
Full load current	0.5A
Short Circuit Rating	N/A - Control only
Earth Leakage	<3.5 mA

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Acoustic Performance	Sound Power (dB)								Overall	Ambient
Frequency Band (Hz)	63	125	250	500	1k	2k	4k	8k	dB (A)	dB (A)#
Winter Slow	41	47	38	35	30	26	18*	24*	**36.8**	**32.8**
Winter Fast	44	50	41	38	34	28	18*	24*	**39.6**	**34.4**
Summer Boost	44	46	42	40	37	29	18*	24*	**39.1**	**35.0**

* denotes results at background

Ambient sound pressure in typical classroom for BB93

Performance

U-Value	
Part L2a requirement	3.5 (W/m² K)
R Series	2.2 (W/m² K)
Damper section	<0.8 (W/m² K)

Damper Air Leakage	
Part L2a requirement	10 m³/h/m²
R Series	2.9 m³/h/m²

Tested at 50 Pa across whole damper unit

Conformity	
CE marking	Yes
BB93 (standard room)	Yes

Installation

The R Series comes with fixing brackets.

The E-Stack unit can be hung from 4 no. pieces of M10 (drop rods).

Mixed Air Temperatures at the Occupied Zone

External Temp	Internal Temperature 21	22	23	24	25
14	19.5	20.0	20.5	21.0	21.5
12	18.5	19.0	19.5	20.0	20.5
10	17.5	18.0	18.5	19.0	19.5
4	14.5	15.0	15.5	16.0	16.5

Based on fresh air flow rate of 150 l/s, 30 people at 5 litres/person/s

System Schematic and Wiring