

# The S Series unit is a ceiling mounted unit that comes in 3 sizes S1500, S1200 and S1000

The S1500 has been designed to ventilate a room with occupancies from 35 to 100 people, the S1200 for spaces with occupancies of 15 to 35. S1000 units are suitable for spaces with lower heat gains or when operating as multiple units. For larger spaces multiple S Series units are installed and can be controlled independently or in zones.



# S Series

The S Series is designed for larger spaces such as school halls, theatres or rooms with high occupancy. Ventilation is provided through a split shaft giving access to the roof

The split shaft for the S1500L and S1200L provides inflow and outflow in winter and can combine with opening windows or dampers 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 as well as providing fan boost and night cool functionality.



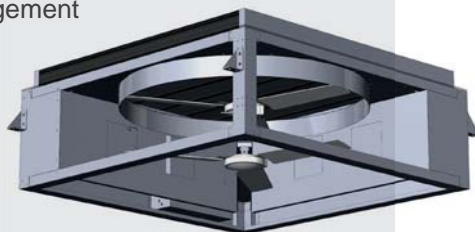
## Product Information

### 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 CO<sub>2</sub> sensor
- External temperature sensor
- Integral control responds to environmental conditions
- Traffic light indicator panel for window opening
- Ready fitted mounting brackets
- Three choices of mixed air delivery direction
- Key switch for automatic operation; test

### Options

- Low level control panel
- Penthouse louvre or mushroom terminal
- Integrated noise attenuation unit offering 35dB D<sub>new</sub> 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

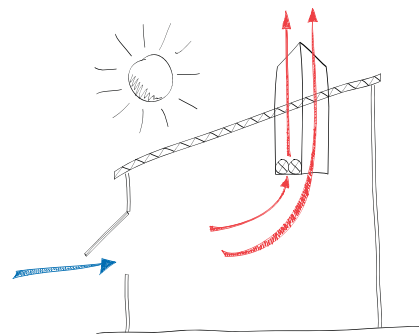


## Air Flow Strategies

### Summer Mode

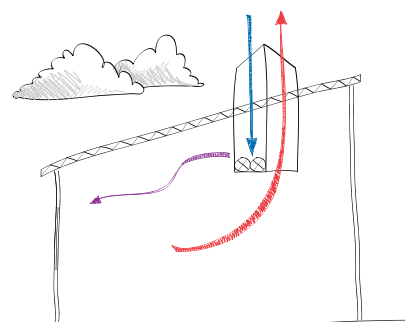
When it is warm outside the system operates in upflow displacement mode, using the stack effect to achieve high air flow rates and keep the room at a pleasant temperature.

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



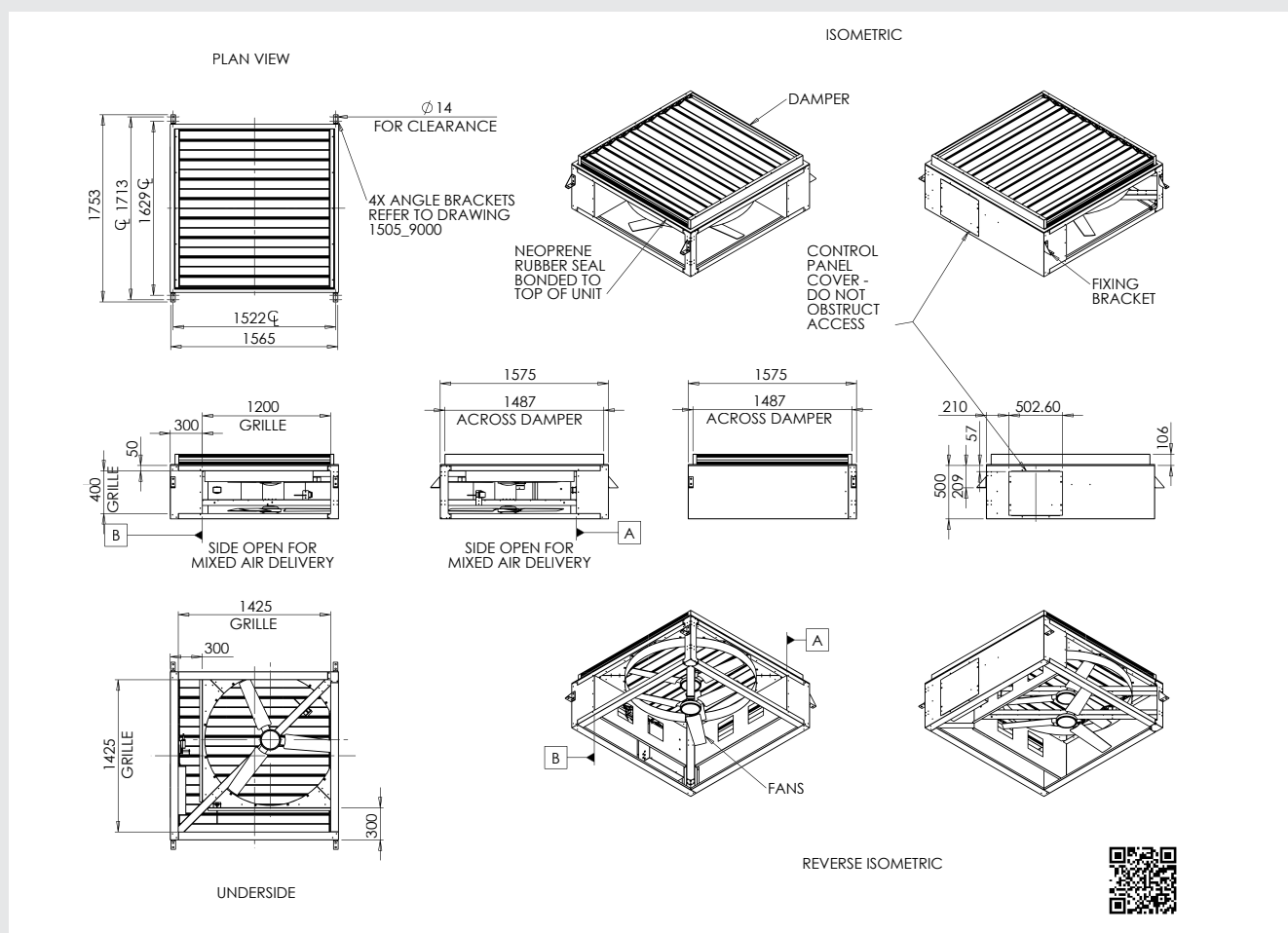
### Winter Mode

When the outside temperature becomes too low to bring directly onto the occupants the S 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.



## S Series continued

## S1500 Dimensioned Drawing

**Dimensions**

H	500 mm
D	1,500 mm
W	1,500 mm
Weight	168 Kg
Physical area	1.54 m <sup>2</sup>
Effective Area (A*)	1.08 m <sup>2</sup>

**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**

Frequency Band (Hz)	Sound Power (dB)								Overall dB (A)	Ambient dB (A) <sup>#</sup>
	63	125	250	500	1k	2k	4k	8k		
Winter Slow	41	42	39	38	34	24	18*	24*	38.7	31.7
Winter Fast	46	47	44	42	40	30	18*	24*	43.5	33.8
Summer Boost	41	41	40	40	38	28	18*	24*	41.1	32.6

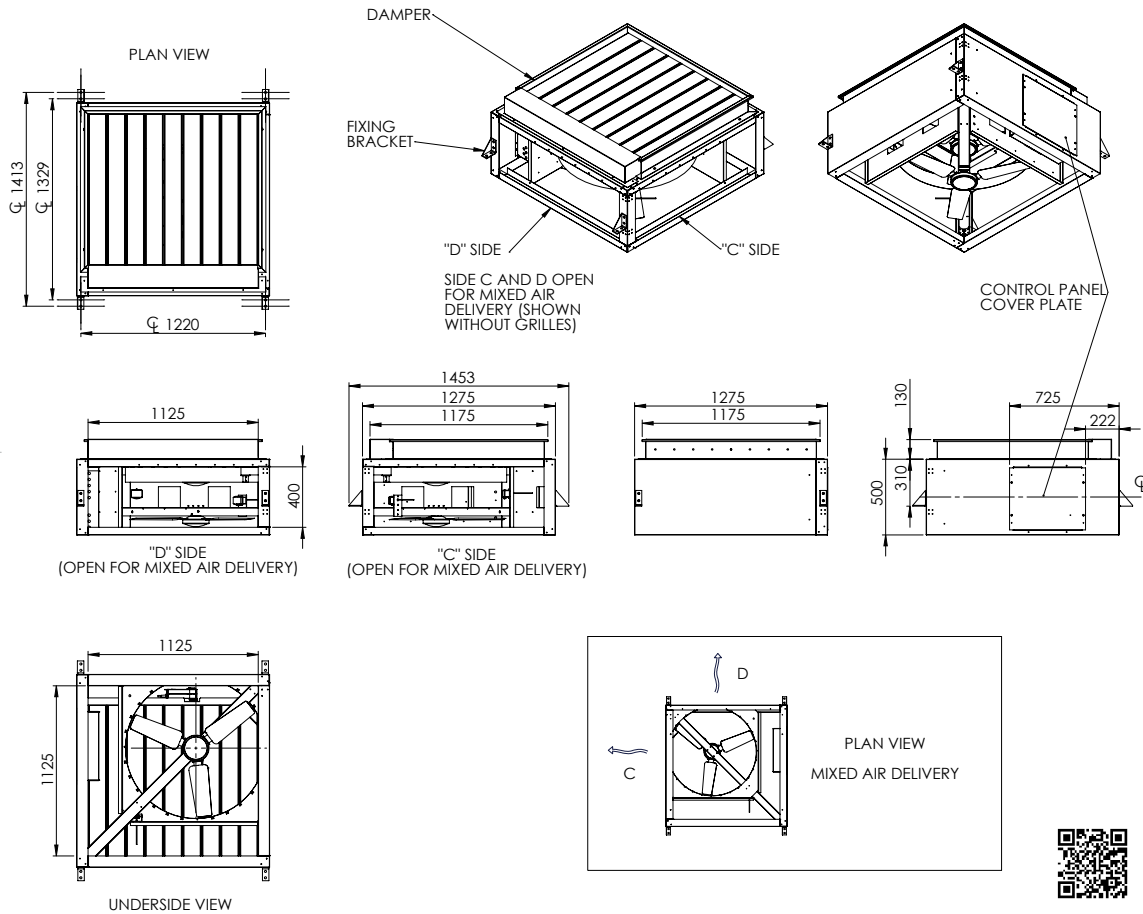
\* denotes results at background

# Ambient sound pressure in typical classroom for BB93

**Shaft Dimensions**

W	1,500 mm
D	1,500mm

## S1200 Dimensioned Drawing



### Dimensions

H	500 mm
D	1,200 mm
W	1,200 mm
Weight	130 Kg
Physical area	0.96 m <sup>2</sup>
Effective Area (A*)	0.67 m <sup>2</sup>

### 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

Frequency Band (Hz)	Sound Power (dB)								Overall dB (A)	Ambient dB (A) <sup>#</sup>
	63	125	250	500	1k	2k	4k	8k		
Winter Slow	32	35	29	26	20	16	18*	24*	28.6	30.7
Winter Fast	39	44	44	38	36	22	33	24*	37.1	33.1
Summer Boost	33	41	39	40	35	36	32	24*	36.3	32.7

\* denotes results at background

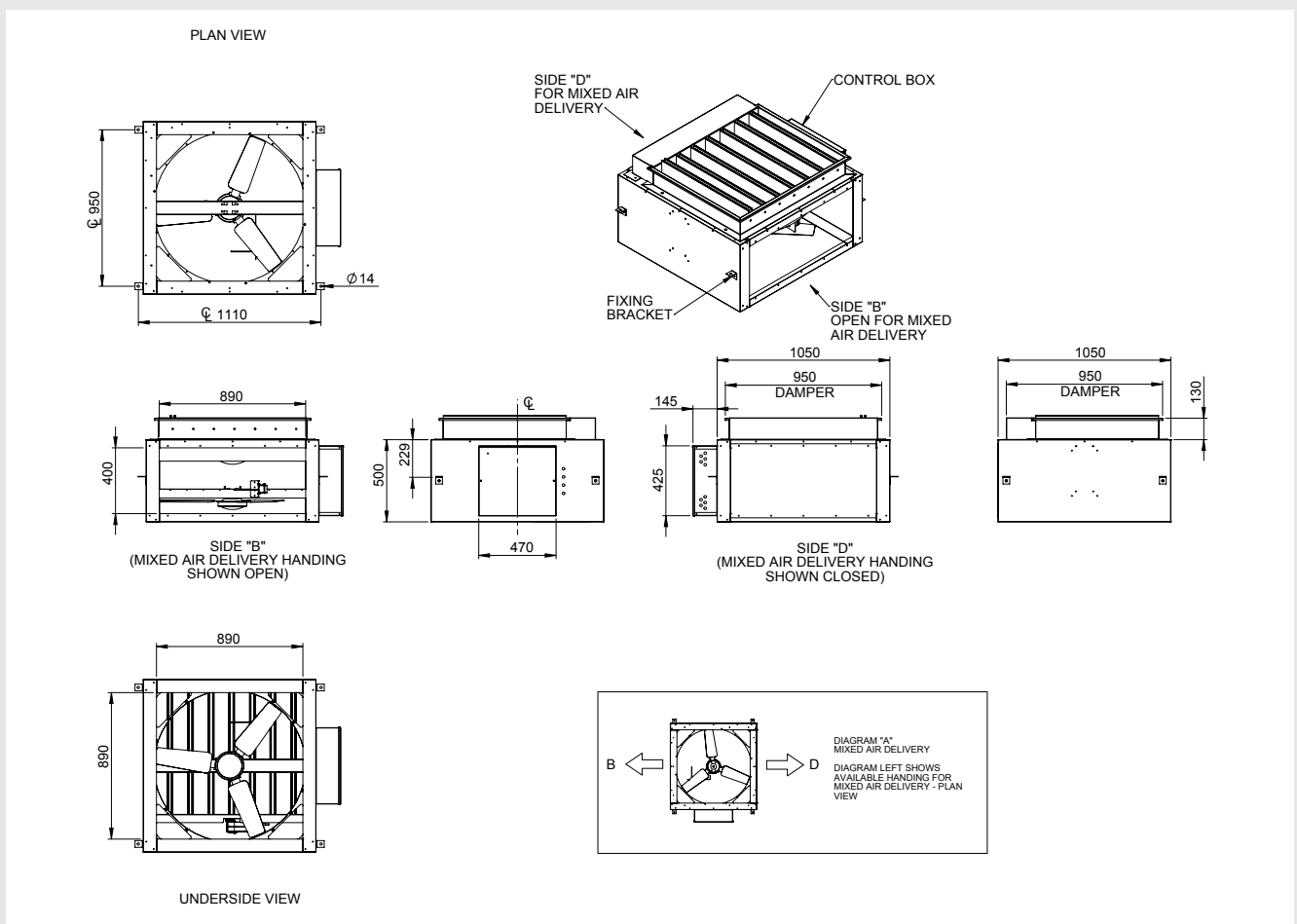
# Ambient sound pressure in typical classroom for BB93

### Shaft Dimensions

W	1,200 mm
D	1,200mm

# S Series continued

## S1000 Dimensioned Drawing



### Dimensions

H	500 mm
D	1,000 mm
W	1,000 mm
Weight	130 Kg
Physical area	0.96 m <sup>2</sup>
Effective Area (A*)	0.67 m <sup>2</sup>

### 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

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# Ambient sound pressure in typical classroom for BB93

### Shaft Dimensions

W	1,050 mm
D	1,050mm

## Performance

### U-Value

Part L2a requirement	3.5 (W/m <sup>2</sup> K)
S Series	2.2 (W/m <sup>2</sup> K)
Damper section	<0.8 (W/m <sup>2</sup> K)

### Damper air leakage

Part L2a requirement	10 m <sup>3</sup> /h/m <sup>2</sup>
S Series	2.9 m <sup>3</sup> /h/m <sup>2</sup>

Tested at 50 Pa across whole damper unit

### Conformity

CE marking	Yes
BB93 (standard room)	Yes

## Installation

The S 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

