The F Series is designed to allow rooms to ventilate through the facade

F Series

If there is a clerestory window concept as indicated in the figure shown then the unit operates in single sided mixing ventilation mode in winter and in summer uses displacement cross-flow ventilation. Without an elevated facade the F500 units provide mixing ventilation

The F1000 unit is a facade mounted unit that has been designed to ventilate a room with occupancies from 10 to 35 people. Integrated fans mitigate cold draughts in a low energy way delivering appropriate ventilation and superb thermal comfort. The illustration below shows an F1000 unit located in a room with another variable control damper located on the same facade in the opposite corner of the room

Air Flow Strategies

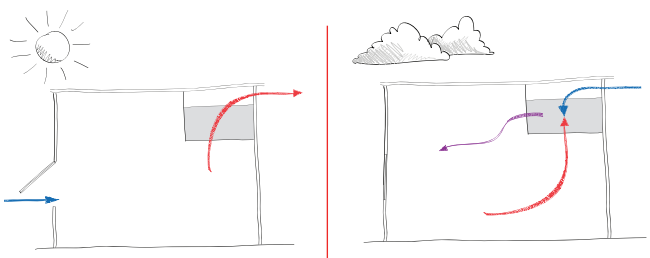
Summer Mode

When it is warm outside the system operates in upflow displacement mode, using the stack effect to achieve high air flow rates and keeping 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 air directly onto occupants the F Series operates to pre-mix the incoming cold fresh air with warm room air to mitigate the risk of cold draughts and eliminate the need for wasteful pre-heating with radiators. Exhaust is provided by an adjacent window or variable control damper provided by Breathing Buildings.



Summer Winter

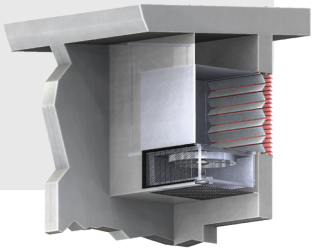
Product Information

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_2 sensor
- External temperature sensor
- Integral control responds to environmental conditions
- Indicator panel for window opening
- Ready fitted mounting brackets
- Key switch for automatic operation; long term off; test

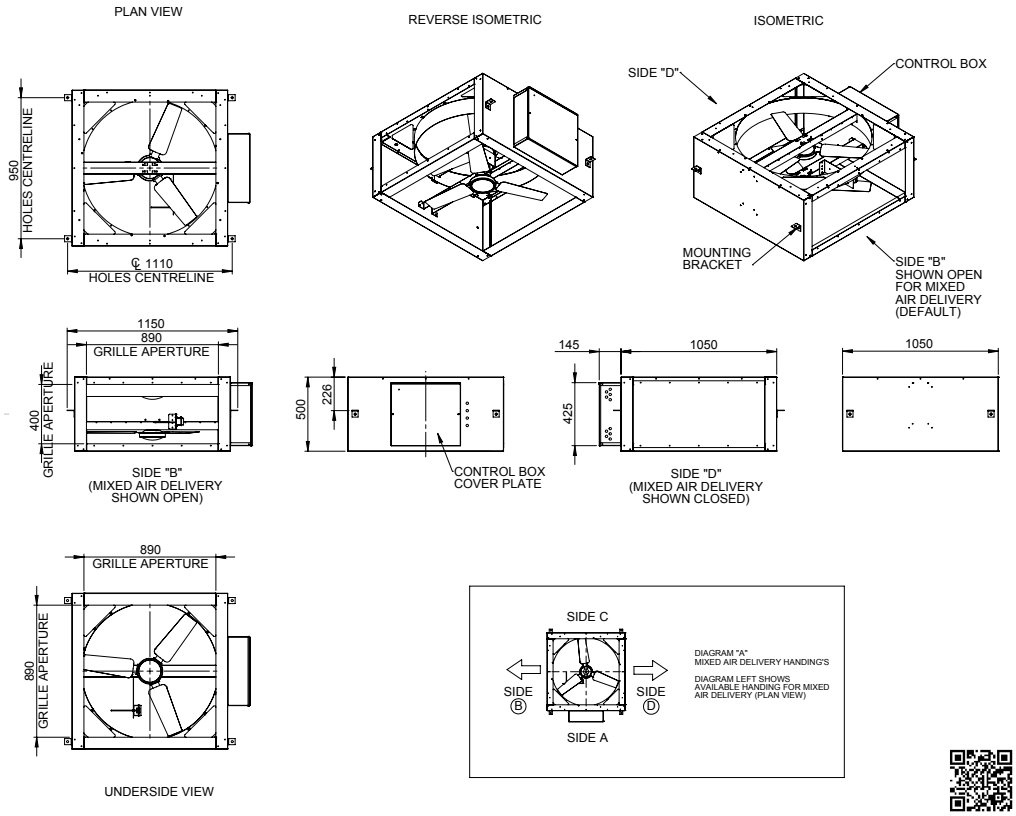
Options

- F1000 and F500
- Patented heating control strategy ensures minimum energy use
- Weather louvre
- Noise attenuation for noisy sites
- Integrated noise attenuation through combination of acoustic louvres and internal baffles depending on site specific requirements
- Control signal for automated actuation of low level windows or dampers
- Modbus link for integration into wider Building Management Systems (BMS)
- Eggcrate grilles



F Series continued

F1000 Dimensioned Drawing



Dimensions	
H	500 mm
D	1,000 mm
W	1,000 mm
Weight	80 kg
Physical area	0.5 m^2
Effective Area (A*)	0.4 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

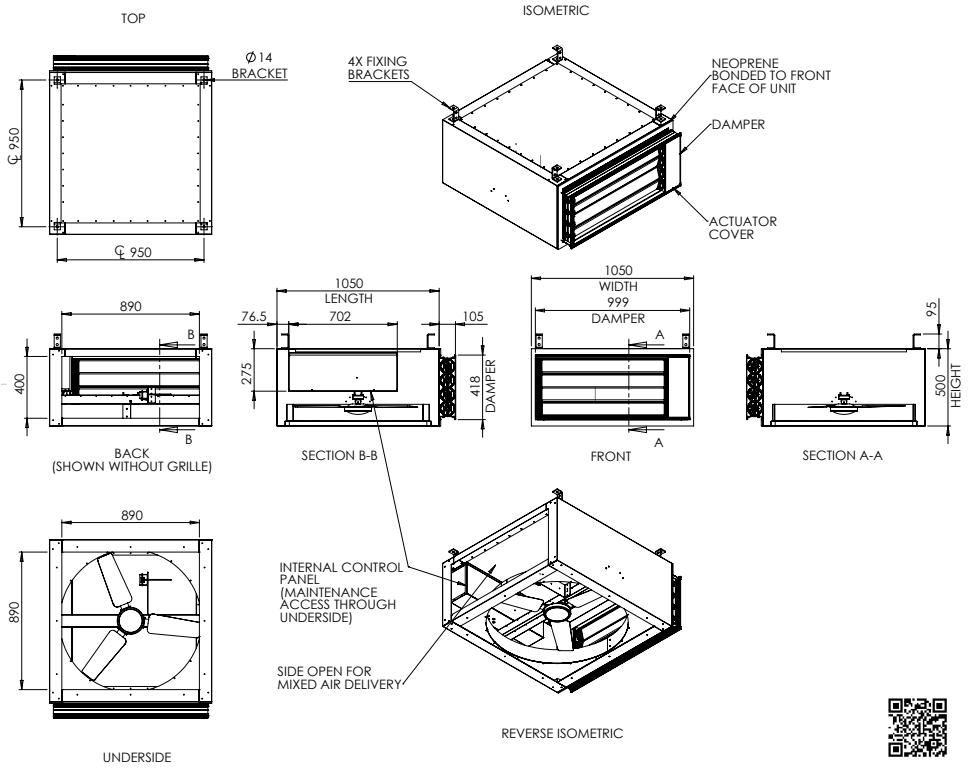
www.breathingbuildings.com/downloads

Acoustic Performance	Sound Power (dB)								Overall	Ambient
Frequency Band (Hz)	63	125	250	500	1k	2k	4k	8k	dB (A)	dB (A)#
Winter Slow	33	39	33	29	21	15	18*	24*	30.6	30.8
Winter Fast	41	52	43	40	37	28	19*	24*	41.8	35.0
Summer Boost	38	39	38	37	33	23	18*	24*	37.4	32.3

* denotes results at background

Ambient sound pressure in typical classroom for BB93

F500 Dimensioned Drawing



Performance

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

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

Tested at 50 Pa across whole damper unit

Conformity	
CE marking	Yes
BB93 (standard room)	Yes

Installation

The F 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