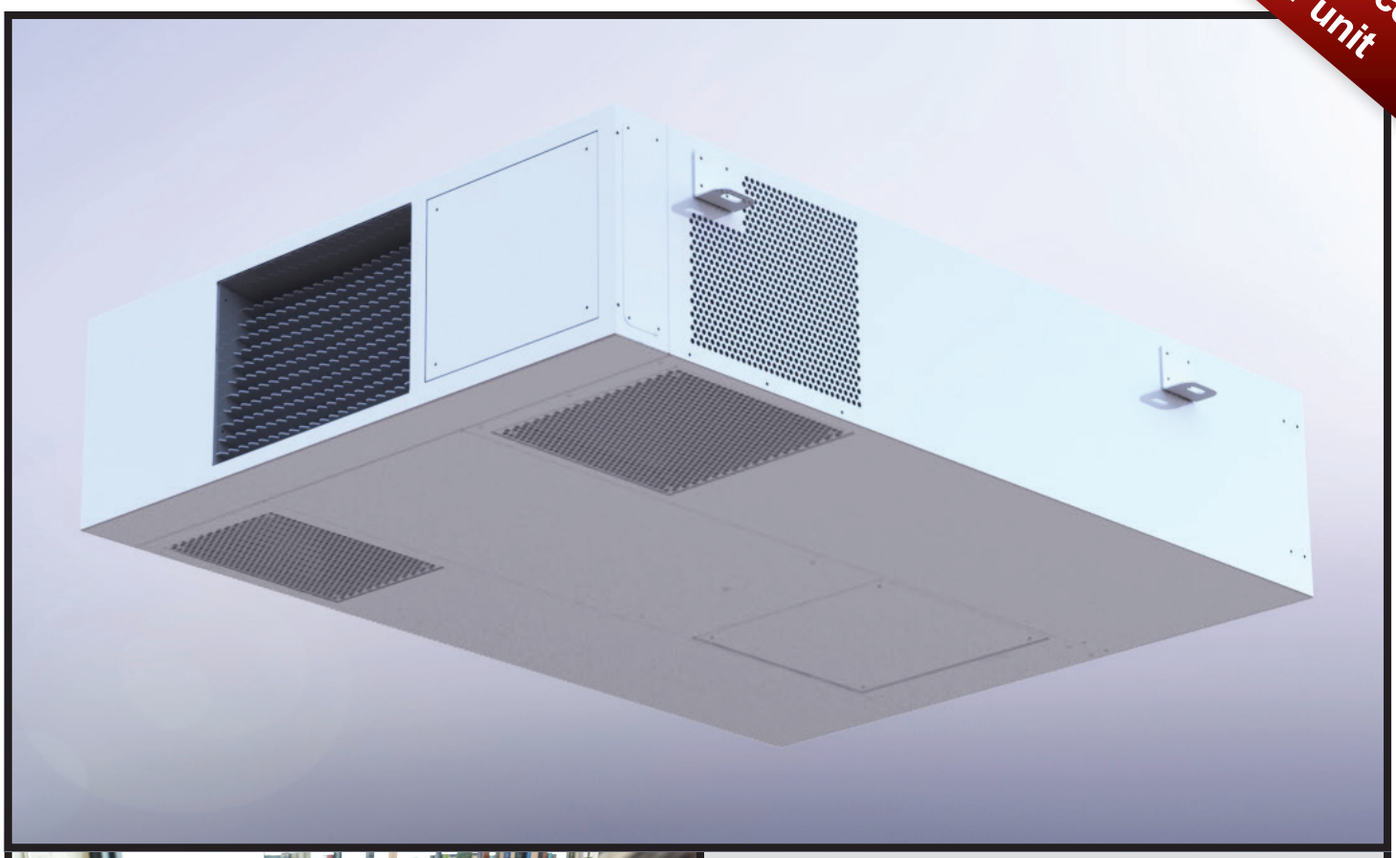
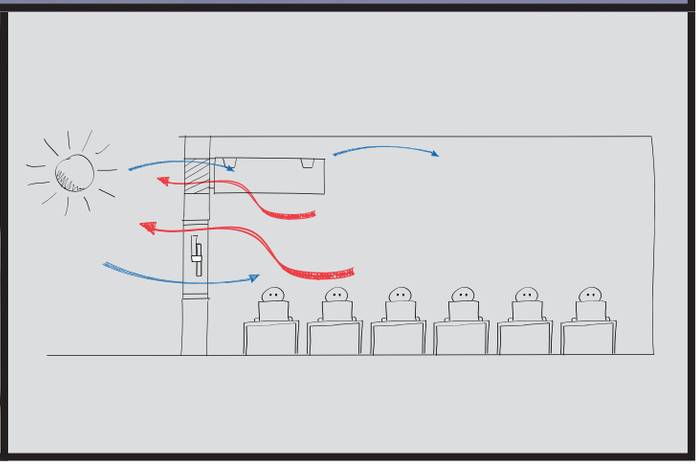
Breathing Buildings

New unit, new performance! >280l/s per unit





NVHR®

Façade-based mixing ventilation,
offering enhanced natural ventilation in a slimline, compact unit

www.breathingbuildings.com

Version 1

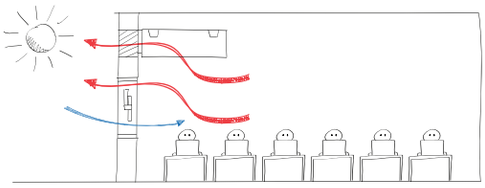
NVHR®

- Designed to meet thermal comfort and air quality criteria of:
  - BB101 (2018)
  - PSBP FOS
  - ESFA Annex 2F
  - CIBSE TM52
- Acoustics: BB93 compliant for classrooms, science laboratories and art/technology rooms
- Robust draught mitigation system with multiple internal temperature sensors
- Heat recycling strategy for winter ventilation
- Mid-season natural ventilation mode
- Summertime boost function
- Automatic secure night-cooling
- Easy to use controls with manual override
- Full BMS integration
- Includes room temperature and CO_2 sensor
- Easy to install with window or wall interfacet
- Installation options:
  - Exposed unit with integral low-resistance deflector grille (no ductwork required)
- Ultra efficient ventilation
- ErP compliant and CE certified
- Max Flow Rate now more than 280l/s per unit

Air Flow Strategies

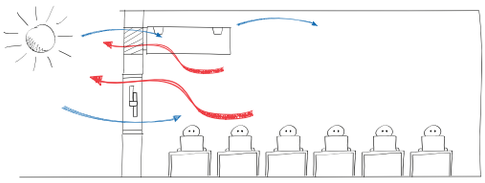
Natural Mode

- Damper opens
- Single sided ventilation
- Works with other openings in the space



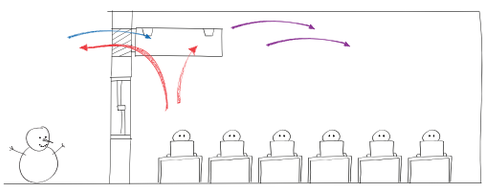
Summer Boost

- Damper opens fully
- Air delivered to rear of the space
- Natural exhaust through the unit
- Night cooling
- Can be used on noisy sites to provide complete ventilation solution



Winter Mixing

- Draught mitigation strategy
- Mixes warm room air with fresh external air
- Natural exhaust through the unit



Control Options

	Strategy						Ancillaries					
	Fully Automatic Operation	Manual Override	Winter Mixing	Natural Mode	Summer Boost	Secure Night Cool	BMS Integration	Heating/ Cooling Interlock	Wall Mounted Keyswitch	Open Windows Indicator	Room Temp/CO_2 Sensor	External Temp Sensor
Manual Control		•		•	•				•			
NV Smart+	•	•	•	•	•	•		○	•	•	•	•
NV Smart+ Connected	•	•	•	•	•	•	•	○	•	•	•	•*

• Included as standard ○ Optional at additional cost * Unless provided by BMS

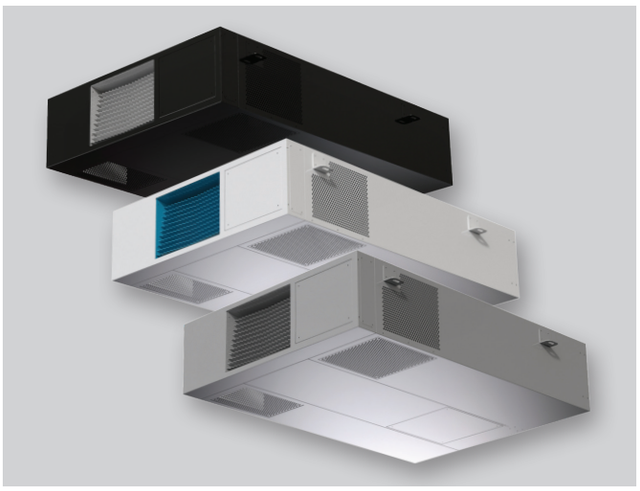
Product Information

Features

- Metal construction
- Bespoke colour option available
- Low energy mixing fan to mitigate against cold draughts in winter
- Summer boost mode
- Night cooling mode
- Room temperature sensor with integrated CO_2 sensor
- Internal mixed air temperature sensor
- Internal draught detection sensor in exhaust path
- External temperature sensor
- Ready fitted mounting brackets
- Key switch for automatic operation; time override; long term off; test
- Wall sleeve or window interface option for easy installation

Options

- Manual or automatic control which responds to environmental conditions
- Weather louvre
- Additional sound attenuation for noisy sites
- Control signal for automated actuation of low level windows or dampers
- User interface panel with indicator light for window opening
- Modbus link for integration into wider Building Management Systems (BMS)
- More options coming soon!



Unit Performance

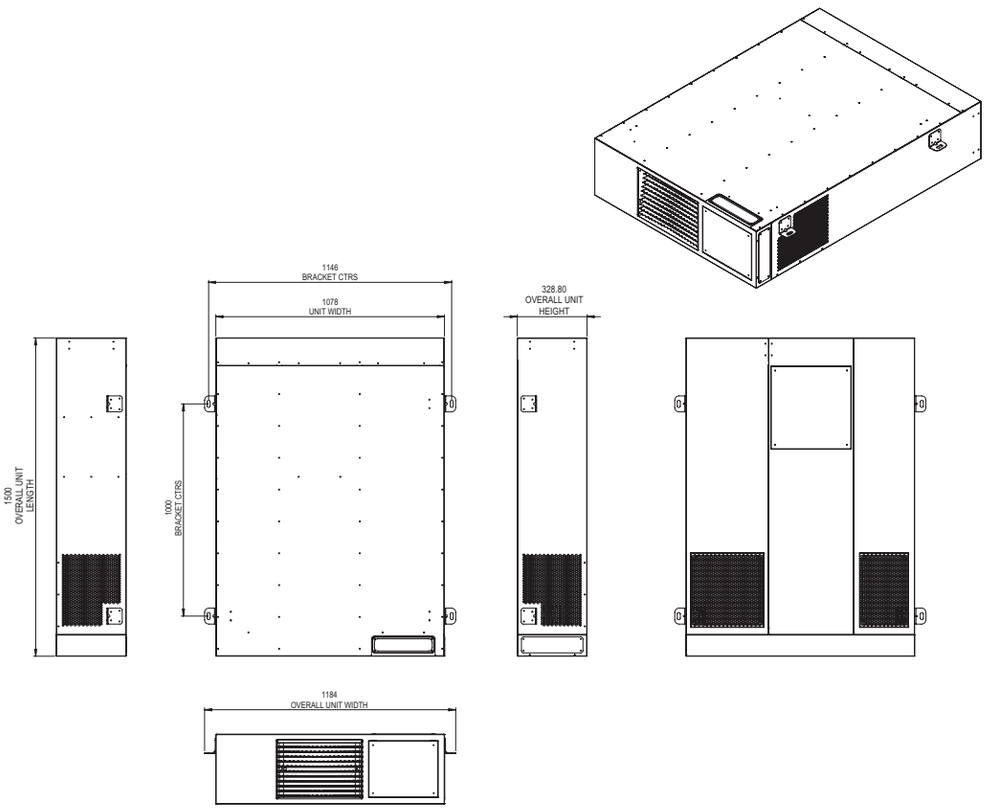
- Cross talk attenuation: 37dB D_{new} as standard
- **Summer Mode** (<35dB)
  - Fresh air flow rate = **144l/s per unit**
  - SFP = 0.06 W/l/s
- **Boost Mode** (<40dB)
  - Fresh air flow rate = **210l/s per unit**
  - SFP = 0.08 W/l/s
- **Science Lab Boost Mode** (<45dB)
  - Fresh air flow rate = **234l/s per unit**
  - SFP = 0.11 W/l/s
- **Night Purge Mode** (no noise limit)
  - Fresh air flow rate >**280l/s per unit**
  - Higher flow rates available if needed
- More data coming soon!

Let us help you change the world...

01223 450060
www.breathingbuildings.com

NVHR®

Dimensioned Drawing

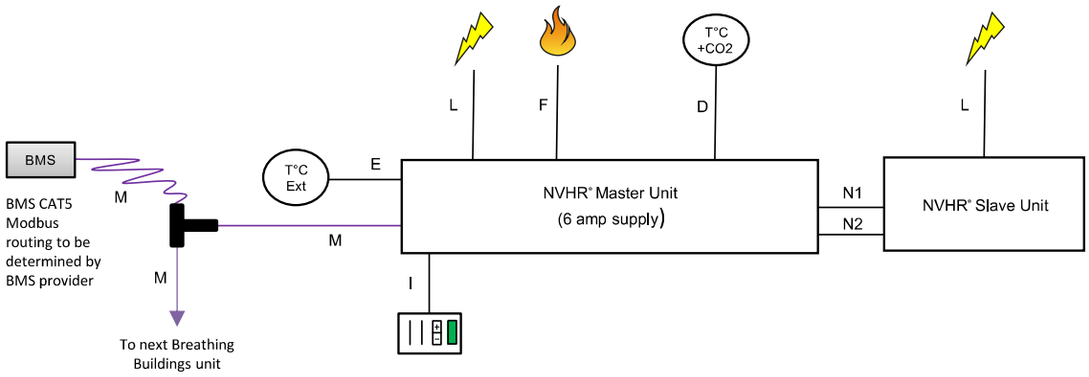


Dimensions

H	329 mm
D	1,500 mm
W	1,078 mm
Weight	65 Kg

Type 1 room interface

Illustrative System Schematic and Wiring



Ident	Device	Cable Description	Power Rating
D	Internal temperature/CO_2 sensor	5 core shielded (24V DC, 0V, 10V DC signal 1, 10 V DC signal 2, shield) or Trend cable TP/2/2/22/HF/200	3W at 24V DC
E	External temp sensor	4 core shielded (24V DC, 0V, 10V DC , shield) or Trend cable TP/2/2/22/HF/200	3W at 24V DC
F	Fire healthy signal	FP200 (24 V DC switch supply, fire signal, earth)	Nom
I	User interface - Type 1 (for Type 2 see notes)	4 core (24V DC, 0V, 24V DC switch position Auto, 24V DC switch position Test) or Trend cable AND 4 core (24V DC switch position Max Vent, 24V DC switch position Disable, 24V DC signal Window Indicator, earth) or Trend cable	3W at 24V DC
L	Single phase mains power	3 core (230V AC, N, PE)	10A at 230V AC N+PE
M	Modbus	Cat 5 with RJ45 straight through	N/A
N1	NVHR® Slave damper	3 core (24V DC, 0V, 24V DC signal 1)	3W at 24V DC
N2	NVHR® Slave fans	4 core (10V DC signal 1, 0V signal 1, 10V DC signal 2, 0V signal 2)	3W at 24V DC