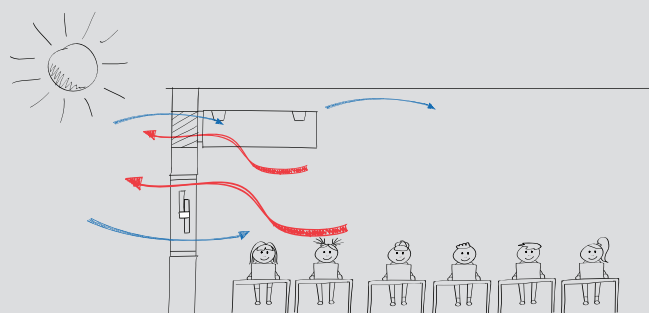
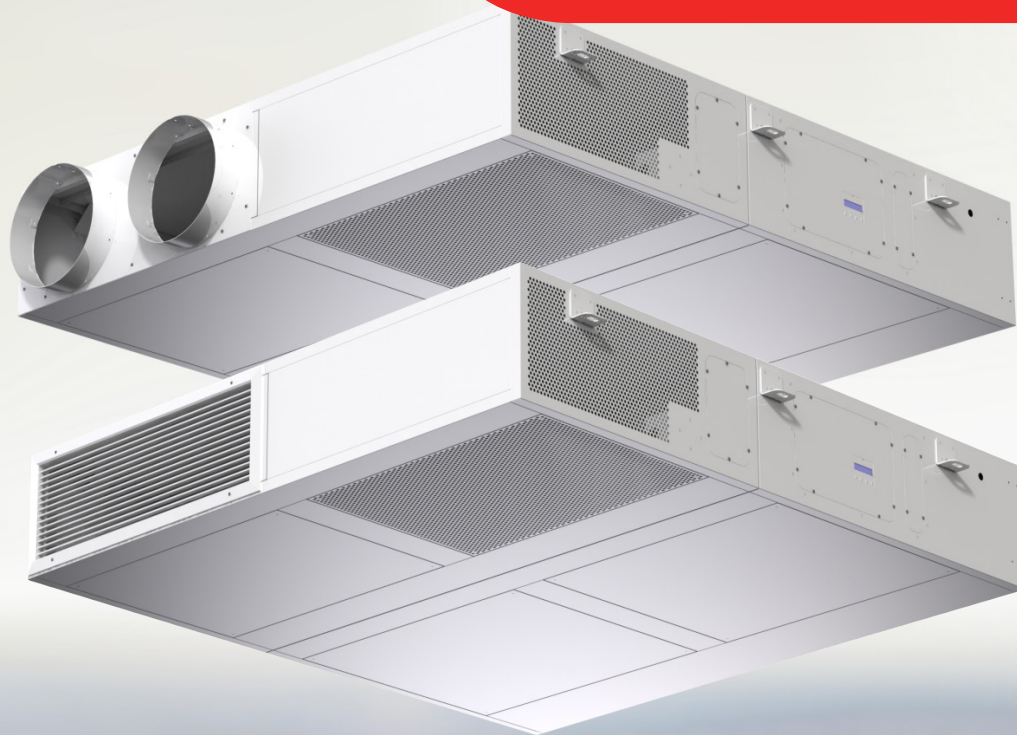


## Air Source Heat Pump Solution Ready



## NVHR®

Award winning facade-based mixing ventilation, offering enhanced natural ventilation in a slimline, compact and energy efficient unit

[www.breathingbuildings.com](http://www.breathingbuildings.com)

Creating an inspiring environment with superb air quality and thermal comfort using ultra low energy hybrid ventilation.

## Benefits

The NVHR range is available in 3 sizes – NVHR 900, NVHR 1100 & NVHR 1700

- NVHR 900 – standard model
- NVHR 1100 – enhanced performance model with higher flows designed for buildings where outside noise levels are a disturbance, and where opening windows is not an option
- NVHR 1700 – a new, larger unit now able to meet the needs of a classroom where previously two units were necessary

### Available as room heating versions

- NVHR+ 900
- Reduces heating bills compared to traditional radiator heating
- Provides the primary heating for the room, no supplementary heating required
- Designed to compliment Air Source Heat Pumps

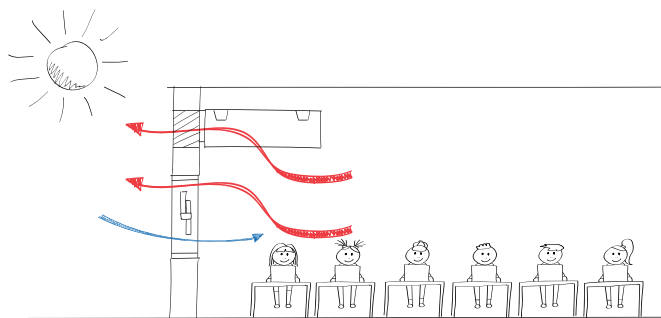
Designed to meet thermal comfort and air quality criteria of:

- BB101 (2018)
- PSBP FOS
- ESFA Annex 2F
- CIBSE TM52
- Quiet operation: fully compliant for classrooms, science laboratories and offices
- Slim, compact and lightweight saving space and easing installation
- User friendly control options
- Automated control that responds to environmental conditions
- Can be integrated into wider Building Management Systems (BMS)
- ErP compliant and CE certified
- Robust pre-coated steel construction in white RAL 9003 as standard – bespoke colour option available on request
- Proven performance & reliability – over 7000 units installed in the UK (visit our web site for case studies)

## Seasonal Modes of Operation

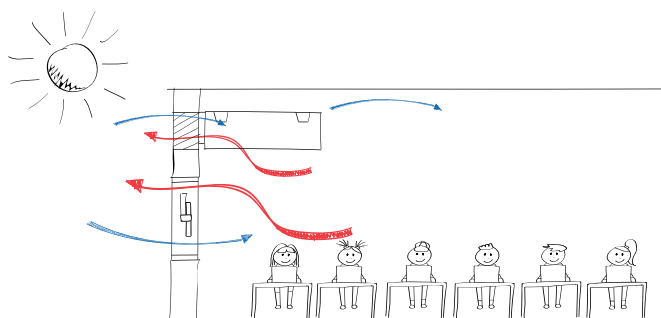
### A Classroom Layout in Natural Mode

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



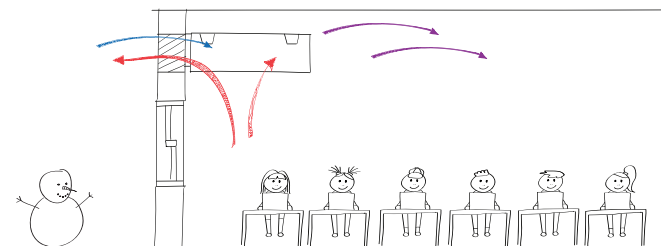
### A Classroom Layout in Summer Boost

- Damper opens fully
- Air delivered to rear of the space
- Natural exhaust through the unit
- Night cooling

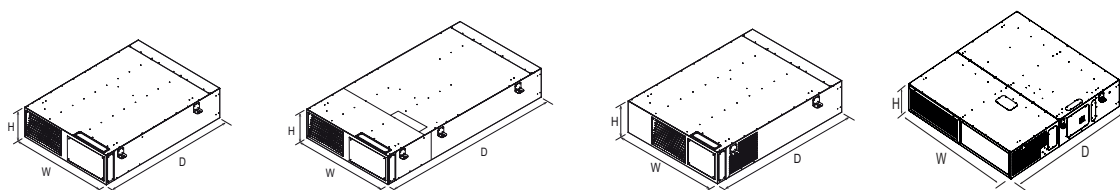


### A Classroom Layout in Winter Mixing

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



## Dimensions



	NVHR 900	NVHR +900	NVHR 1100	NVHR 1700
H	300 mm	300 mm	330 mm	330 mm
D	1,310 mm	1,710 mm	1,500 mm	1,800 mm
W	900 mm	900 mm	1078 mm	1700 mm
Weight	56 kg	70 kg	68 kg	130 kg

## Performance

			SUMMER			WINTER		
Model	Type of Room	Predicted Room Sound Pressure Level with a Pair of Units (dB)	Total Air Flow Rate (l/s)	External Static Pressure (Pa)	Specific Fan Power (W/l/s)	Total Air Flow Rate (l/s)	External Static Pressure (Pa)	Specific Fan Power (W/l/s)
NVHR 900	SEN/Music Room (60 m²)	30	95	9	0.07	168	7	0.07
	Normal Classroom (60 m²)	35	118	14	0.10	206	11	0.09
		40	147	21	0.14	253	16	0.11
	Science Classroom (90 m²)	40	155	23	0.15	266	17	0.12
		45	193	36	0.20	328	26	0.15
NVHR+ 900	SEN/Music Room (60 m²)	30	99	10	0.19	141	5	0.15
	Normal Classroom (60 m²)	35	128	16	0.22	180	8	0.17
		40	157	24	0.28	227	13	0.22
	Science Classroom (90 m²)	40	165	26	0.3	240	14	0.24
		45	205	40	0.43	296	21	0.36
NVHR 1100	SEN/Music Room (60 m²)	30	130	10	0.05	160	8	0.05
	Normal Classroom (60 m²)	35	160	14	0.06	200	11	0.07
		40	210	25	0.08	230	15	0.07
	Science Classroom (90 m²)	40	220	27	0.09	240	18	0.09
		45	260	39	0.12	280	26	0.12
NVHR 1700	SEN/Music Room (60 m²)	30*	255	5.3	0.08	270	3.6	0.06
	Normal Classroom (60 m²)	35*	326	9.9	0.09	356	7	0.09
		40*	386	14.9	0.13	409	10.3	0.12
	Science Classroom (90 m²)	40*	414	17.5	0.15	437	12.3	0.15
		45*	474	23.9	0.2	-	-	-

All values listed are for grilled units. \* Based on one unit per classroom

## NVHR® Installation Options

Different options available to suit your installation:

- Exposed unit, utilised when no ceiling void is available
- Ducted unit, installed within the ceiling void
- Bulkhead arrangement



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 <sub>2</sub> Sensor	External Temp Sensor
NV Smart+	✓	✓	✓	✓	✓	✓		◦	✓	✓	✓	✓ <sup>+</sup>
NV Smart+ Connected	✓	✓	✓	✓	✓	✓	✓	◦	✓	✓	✓	✓ <sup>*</sup>
Advanced Connected Controller	✓	✓	✓	✓	✓	✓	✓	◦	✓	✓	✓	✓ <sup>*</sup>

✓ Included as standard   ◦ Optional extra   \* Unless provided by BMS   + Integrated External Temp Sensor option available, please ask us about this

User Interface Options



Traditional Control

- Key switch with rocker switches
- Easy to operate
- Sets mode of operation - automatic, manual & test
- Status indicated by green light (steady or flashing sequences)



Advanced Connected Controller

User interface panel with indicator lights for:

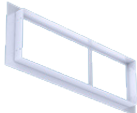
- Boost and Timer
- Sleep mode
- Open windows prompt
- Fault indicator
- Dark mode for SEN rooms and distraction avoidance
- QR Code for easy access to user guide
- Bluetooth connectivity for App commissioning and tuning
- Digitally connected via cable for robust operation and accurate commissioning

Accessories

Breathing Buildings have a comprehensive range of accessories to enhance functionality or aid ease of installation.



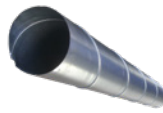
Sensors



Wall & Glazing Interfaces



Louvres



Ductwork



Grilles

Contact Breathing Buildings dedicated design services team to help you select the best product solution to meet your application requirements.



Contact us:

**w:** [www.breathingbuildings.com](http://www.breathingbuildings.com)

**e:** [info@breathingbuildings.com](mailto:info@breathingbuildings.com)

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