Hushvent

Warm air reclaim units

Return heated air from roof space to floor level

~ Quietly ~ Automatically ~ Without draughts ~

VES Andover

Hushvent - it pays for itself

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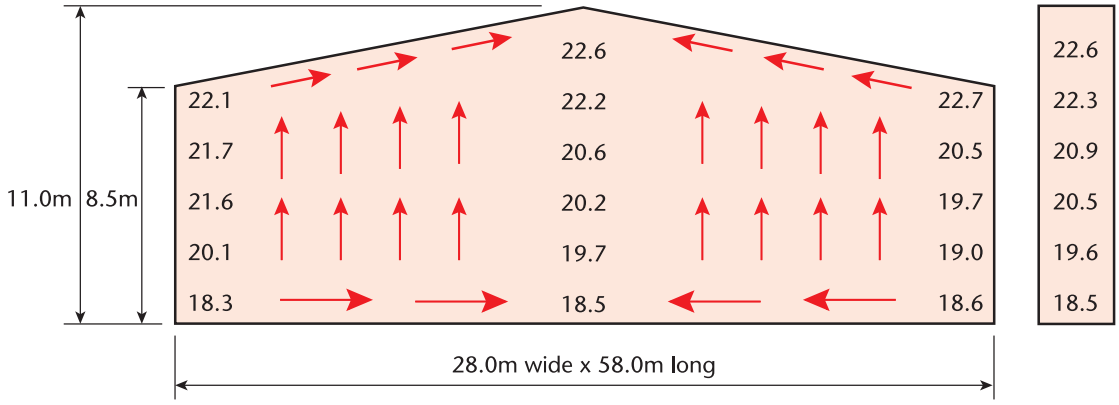
Heating introduced into a large building rises towards the roof. This heat is then lost by leakage or fabric loss at roof level. Stratification takes place whatever the circumstances.

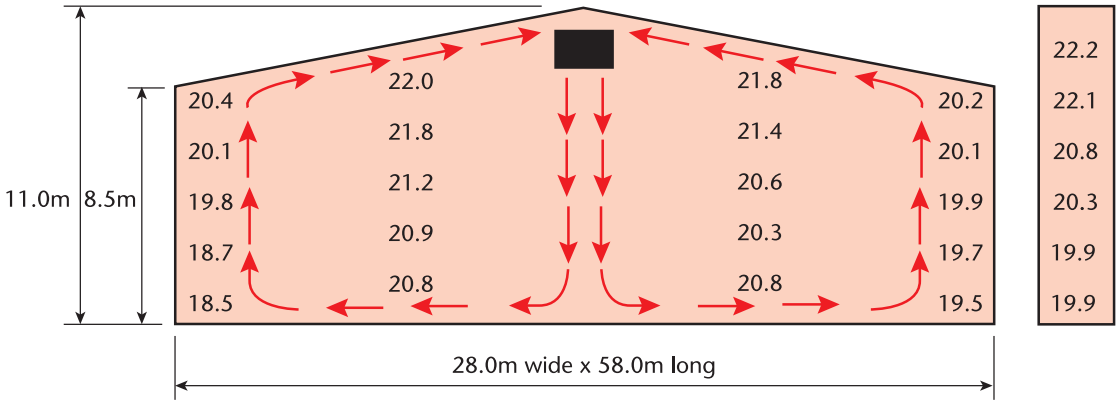
The following illustrations show the actual temperature gradient measurements taken in the heated VES factory in winter. The factory is a typical modern insulated building, heated by a number of floor mounted gas fired unit heaters. The temperature difference between the working area 1.2 metres above the floor and underside of roof is 4°C. Much of the heat is lost through the single layer smoke vent louvres and the roof lights.

Section of building *'before'* *All temperatures shown in °C.*



With the Hushvent units operating, this gradient is substantially reduced.

Section of building *'after'* *All temperatures shown in °C.*



Two detailed research studies have been done on this subject.

Prediction of Temperature Gradients in Large Buildings *by K E Moreton Smith, P M Rose and M J Seymour,* published by BSRIA, ref TN 5/92.

Destratification of Air in Industrial Buildings *by P L Iles,* published by BRE in 1995.

Both conclude that energy savings of 10% are likely when destratification fans are introduced.

Hushvent units are ideally suited for warehouses, shopping malls, superstores, exhibition halls, sports centres, DIY stores, factories, laundries, hangars.

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For a successful installation, the units should be correctly sized and spaced.

Model	Air Volume m^3/sec	Ideal Mounting Height metres [a]	Average Floor Area per unit m^2	Noise Level dBA @ Floor Level [l]	S.F.P. [s] watts/litre/sec
HV 355/6	0.38	6.0	150	47	0.18
HV 400/6	0.63	7.5	250	47	0.14
HV 450/6	1.00	12.0	500	52	0.14
HV 560/8	1.25	15.0	750	51	0.15
HV 630/8	1.50	15.0	900	52	0.14
HV 630/6	2.25	20.0	1350	58	0.17

[a] *Based on a terminal velocity of 1.0m/sec at floor level.*
[l] *Noise level in a reverberant environment.*
[s] *Specific fan power, as detailed in Part L of the Building Regs.*

The ideal mounting location is 1.0 metre below the highest part of the roof.

Even spacing of units through the heated area is required.

Hushvent units have fitted automatic on/off control which operates to an adjustable temperature setting. In addition, manual or automatic fan speed controllers are available, with single or multiple units being controlled by one control unit if required.

Installation is easy, using 8mm studding and purlin clips.

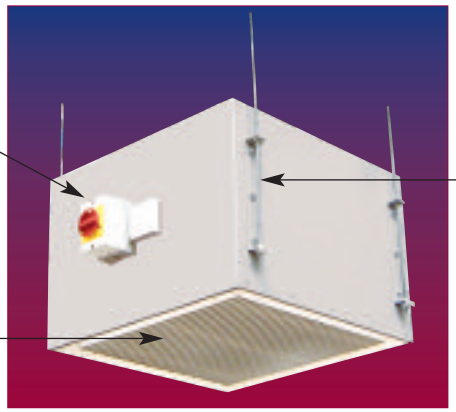
Hushvent units should not be installed in factories where an industrial process produces fumes or dust.

Example of pay-back using Hushvent heat reclaim units:

Cost of heating VES factory (volume 31,500m^3) for one year, ...£19,713.00

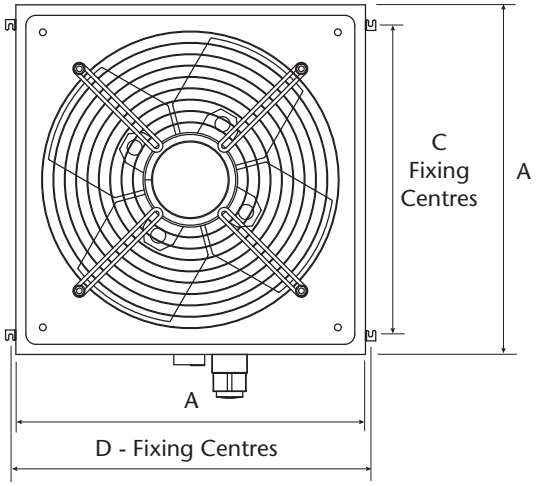
Cost of 6 no. HV 450 units, including installation (2006), ...£4,760.00

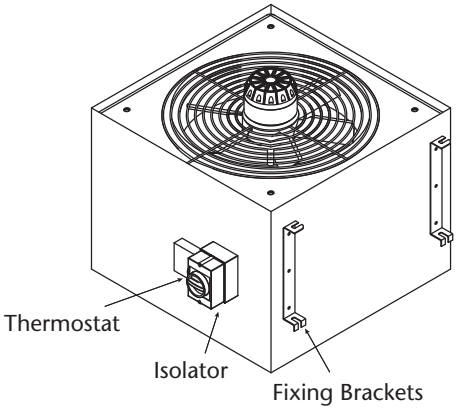
Projected primary energy saving 10% £1,971.30
Less running costs of Hushvents £31.42
Net saving p.a. after payback period £1,939.88
Payback period will be less than 2 1/2 years.

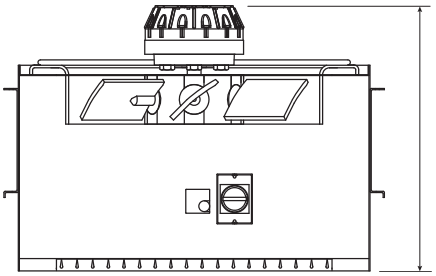


Hushvent

Dimensions







Model	A	B	C	D	Weight kg
HV 355/6	510	450	410	545	20
HV 400/6	555	455	455	590	25
HV 450/6	605	475	505	640	35
HV 560/8	805	530	705	840	45
HV 630/8	855	530	755	890	55
HV 630/6	855	530	755	890	55

Electrical Details

All motors 230 volt 1 phase.

Model	Fan speed	Motor kW	FLC 230v	Manual Speed Controller	Automatic Speed Controller*
HV 355/6	900	0.10	0.44	T1	MS 10
HV 400/6	900	0.12	0.54	T1	MS 10
HV 450/6	900	0.17	0.74	T1	MS 10
HV 560/8	700	0.24	1.34	T4	MS 10
HV 630/8	700	0.28	1.47	T4	MS 10
HV 630/6	900	0.54	2.40	T4	MS 10

*** Automatic fan speed control**

- *The MS 10 speed controller will operate on 0-10 volt providing automatic fan speed control via a signal from BMS, i.e. air quality or temperature sensor.*
- *The MS 10T is an electronic temperature controlled fan speed control via a sensor. Controller size 200mm wide, 300mm high x 150mm deep.*

Technical Details

The unit cases are constructed from galvanised sheet steel, with light grey external powder coat paint finish to BS 00A05. Other colours available on request.
The fitted fixing brackets are designed to accept 8mm threaded studding.
The removable outlet grille is fixed bar anodised aluminium type, finished white.
The fans are plate mounted axial fans with external rotor motors, class F insulation, IP 54 rating, with fitted motor side guard.
The motors are prewired to the adjustable thermostat and a local isolator.

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VES reserve the right to amend product specifications and details without notice.

ISO 9001-2000
Cert. No. Q5375

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