Kair™ Flat Input Ventilator
Model: K-FV100

DATA SHEET

Provides Continuous Background Ventilation To Combat Condensation

■ FEATURES

- **Meets Building Regulations requirements Document F1 (Alternative methods)**
- **Easy to install (no external access required)**
- **Whisper quiet**
- **Continuous running trickle or boost ventilation**
- **Humidity sensor (optional)**
- **Low running costs**
- **Positive input airflow**
- **Security ventilation™ (no need to open windows)**
- **Health benefit - produces dramatic improvements of indoor air quality**
- **Heat Energy dividend**

■ GENERAL

Kair™ Flat Input Ventilators have been designed to create a continuous positive air pressure (providing a capacity to move in excess of 100m^3 per hour). This will effectively combat condensation dampness and mould growth and meets or contributes towards the F1 Building Regulations requirements for ventilation.

Condensation occurs when the water content of air rises above a level called the 'dew point'. At such time, water droplets will form on the coldest surfaces i.e. window, external walls etc. On average, a family of four people will produce about two gallons of water vapour per day from activities such as cooking, bathing, breathing and the washing and drying of clothes.

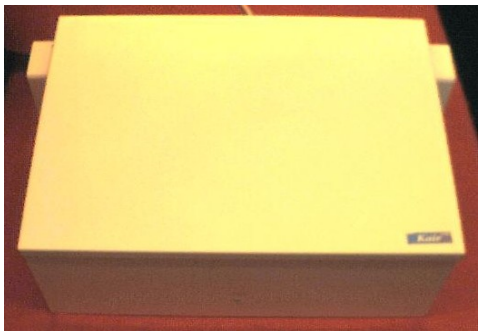
It is also a fact that nowadays most properties are insulated to prevent warm air from escaping. This reduction in ventilation allows the air contained within the property to reach a higher relative humidity.

Kair™ Flat Input Ventilators will help provide protection for hygroscopic material such as wallpaper, books, leather goods, wooden furniture, clothing and other fabrics from mould.

■ ENERGY EFFICIENCY

Kair™ Flat Input Ventilators utilise heat that exists at ceiling height due to convection and recirculates it around the dwelling.

The continuous air movement throughout the property will create surface evaporation of moisture contained in the building fabric. This will in turn create a drying out process, which means that there will be less hidden moisture to heat up (see leaflet 'Cost of hidden moisture').

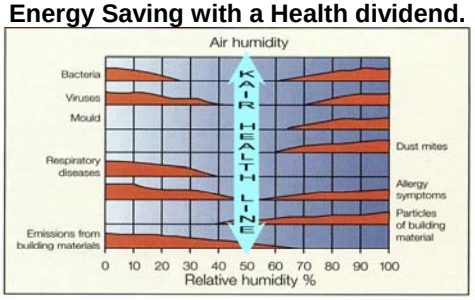


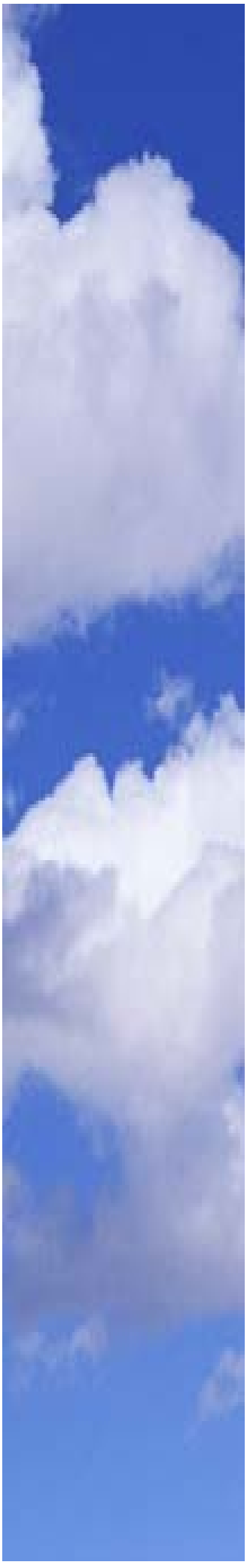
■ HEALTH DIVIDEND

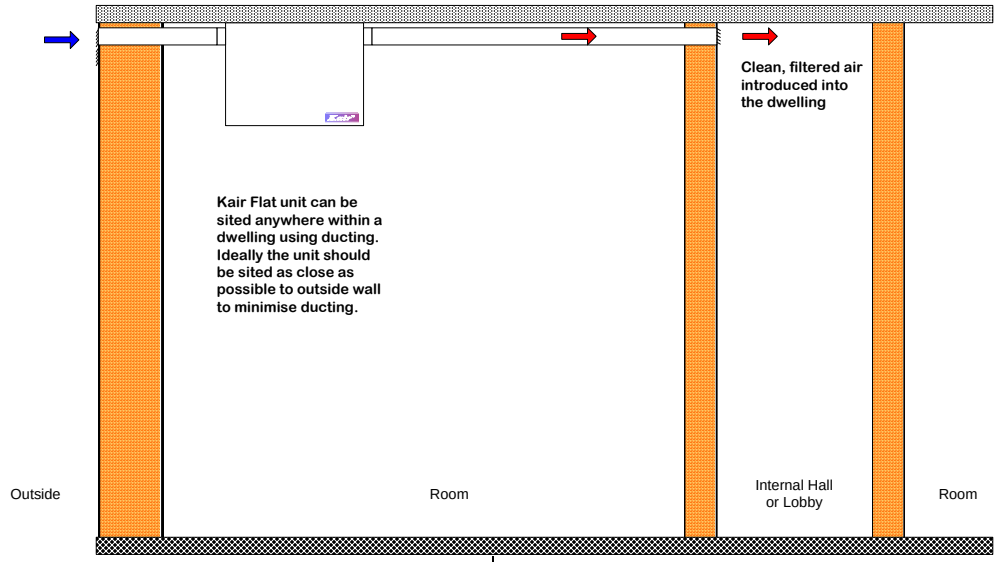
As long ago as 1989, an article in the British Medical Journal referred to the health hazards associated with condensation and mould growth in dwellings. The Statutory Fitness Standard clearly states that dwellings with inadequate ventilation, condensation and mould growth problems are unfit for human habitation and Building Regulation Guidelines require a supply of fresh air and the removal of pollutants.

Kair™ units, by reducing humidity to optimum levels (Kair Health Line™), eradicate condensation, prohibit mould growth and discourage the spread of bacteria, viruses and dust mite activity. By expelling dust particles, gasses and other household pollutants, the units create a dramatic improvement in the quality of the indoor air supply.

Energy Saving with a Health dividend.







■ HOW IT WORKS

Kair™ Flat Input Ventilators draw in fresh air through an external wall. The air is filtered and passed through ducting to discharge at ceiling level at a central location of the flat (hallway where most doors are situated). The fresh air mixes with the warm air rising above head height and redistributes it throughout the entire flat.

Each room is slightly pressurised and the continual air movement eliminates stagnant pockets of moisture-laden air, which are eventually expelled through natural leakage points (window and door crevices, flues, air grilles etc). In effect, reversing the tendency towards cold draughts entering the flat.

An overall improvement in the internal atmosphere will be noticed within a few days.

■ CONTROL

To combat the variable factors related to humidity levels within dwellings, the Kair Flat Input Ventilator has a specially designed speed control which allow the user to adjust the airflow rate as and when it is felt necessary or if preferred a humidistat control that adjusts the unit speed from trickle to boost automatically.

■ INSTALLATION

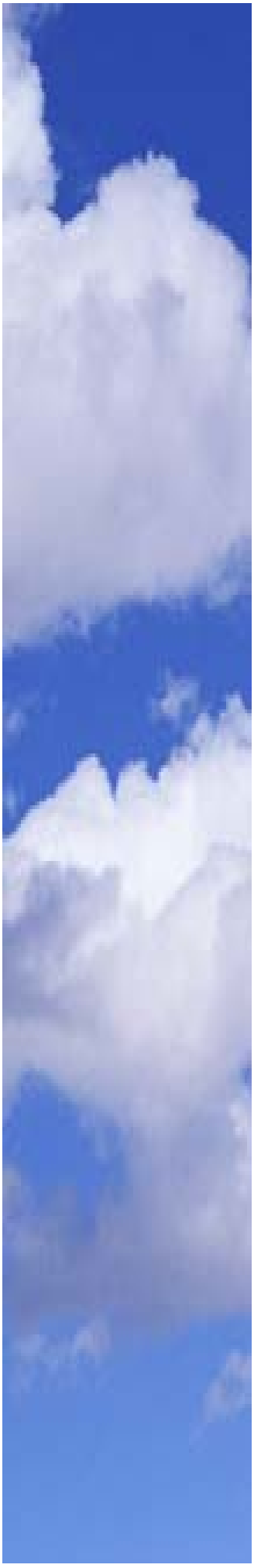
Kair™ Flat Input Ventilators are designed for wall or ceiling installation in flats or similar dwellings with no roof void. The unit should be sited as near as is practical to an outside wall air inlet grille and minimum ducting runs are preferable to discourage the formation of condensation on the ducting. If long runs of ducting are required it may be prudent to incorporate boxing-in into the design.

Any competent D.I.Y. enthusiast or an electrician can simply install the Kair Input Ventilator.

■ MAINTENANCE

Kair™ Flat Input Ventilators require only a minimal amount of maintenance to ensure efficient running. The internal filter should be cleaned or replaced approximately every 12 months subject to prevailing conditions.

The motor incorporates ‘sealed for life’ bearings and requires no maintenance.



■ SPECIFICATIONS

Please see separate specification clause leaflet.

■ ELECTRICAL SAFETY

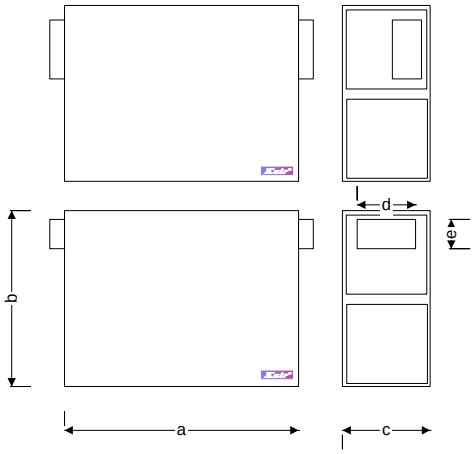
Installation can be carried out by a suitably qualified craftsman and connected to electrical supply by an electrician in accordance with IEE Regulations.

■ REGULATIONS

The unit meets IEE and Building Regulations.

■ DIMENSIONS

Note: For ease of installation, the input and supply rectangular spigots and the internal motor, can be rotated by 90° to enable tight fitting against ceiling or walls.



Dimensions (mm)				
a	b	c	d	e
380	290	185	100	50

■ PERFORMANCE

K-FV100	*Trickle*	*Boost*
Airflow	68m³/h	102m³/h
Watts	14	42
dBA	23	42
Typical performance figures		

■ WHY SPECIFY Kair™

Ventilation is necessary to maintain a healthy and comfortable internal environment and to rapidly remove pollutants such as moisture, volatile organic compounds (VOC's), allergens such as dust, oxides of nitrogen, carbon monoxide, carbon dioxide, tobacco smoke and unpleasant odours.

Moisture is generally assumed to be the most significant of these pollutants because of the high rates of generation from cooking, bathing, washing, drying etc and the consequential condensation and mould growth problems. It follows that if the ventilation strategy is based on controlling this principle pollutant by heat recovery input / extract ventilation then logically the other indoor pollutants will also be adequately controlled.

Stale air, and air which is hot or humid, should be replaced at a reasonable rate.

Good ventilation means providing a balance between energy efficient and healthy indoor air best summed up by the catchphrase 'build tight – ventilate right'

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The fresh air supply rate should not normally fall below 5 to 8 l/s per occupant. This is best achieved by creating continuous air changes of 0.5 to 1.0 every hour, throughout the entire dwelling as specified in D.E.T.R. Good Practice Note 268.

Although building regulations relate to new buildings, the guidance on ventilation is applicable to existing dwellings and most important of all, the regulations are concerned with minimising the risk to health from the build up of pollutants. The K-FV100 helps to satisfy all of these criteria.

■ REFERENCES

i. Statutory Fitness Standards – Housing Act 1985

ii. Department Of The Environment F1 Guidance – Means Of Ventilation

iii. Airborne Fungal Glossary – Basic Facts About Mould –TRD

iv. Housing Act – (COSHH) Control Of Substances Hazardous To Health Regulations – 1988

v. Optimum Relative Humidity Guide KTIC

vi. Building Research Establishment. Digest 297 'Surface Condensation And Mould Growth In Dwellings'

vii. NHS – A Health Strategy for London

viii. DETR – Energy Efficient Ventilation In Housing – Good Practise Guide 268

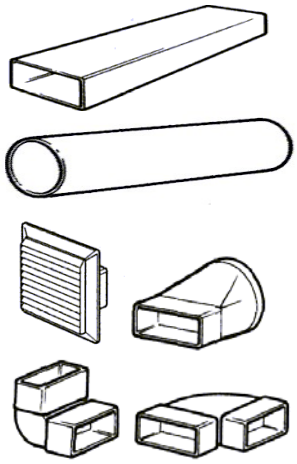
ix. Home Energy Conservation Act 1985

x. British Standards Institution. BS 5250. 'Control Of Condensation In Buildings'. BSI, London, 1989

xi. Perera M D A E S and Parkins L M. 'Build Tight – Ventilate Right'. Building Services Journal, June 1992. – CIBSE, London, 1992

xii. Property Associated Technical Standards

■ ACCESSORIES

Kair™ Flat Ducting Kit *Stock code: K-DK-FV100A*	3 No. FLAT CHANNEL 2 No. 90° HORIZONTAL BEND 2 No. 90° VERTICAL BEND 2 No. LOUVRED GRILLE 2 No. WALL PLATE - WHITE 4 No. FLAT CHANNEL CLIP 2 No. CHANNEL CONNECTOR Standard ducting parts sufficient for the average installation
Example ducting accessories *Stock Code: Various*	 Full ancillary list available
Humidity Controller *Stock code: K-HC*	
Switch control *Stock code: K-2SPC*	
Hour meter *Stock Code: K-HRM-240*	 To verify continuous use or record interruptions to electricity supply
Pocket sized RH meter *Stock Code: ETI810-155*	 To measure Relative Humidity and temperature.

Manufactured by

Kair™ VENTILATION LIMITED

www.kair.co.uk

Patents applied for.
Kair™ reserves the right to change the design and specification of these products without prior notice.

Issue Date: June 2007

***Kair™ Flat** Input Ventilator*

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Available From: