

Model: Kair Whole House Ventilator
Model Number: KHRVWH2000

Installation, Maintenance Instructions and User Guide

Kair™
VENTILATION LIMITED

Unit 6 Chiltonian Industrial Estate
203 Manor Lane, Lee, London. SE12 0TX
Tel: 08451 60 22 40 Fax: 08451 60 22 50
Web: www.kair.co.uk

■ GENERAL

Kair™ KHRVWH2000 controls condensation and eradicates mould growth problems in houses, offices and bungalows and is an integral part of the Kair Hybrid Heat Recovery Systems.

The Kair™ KHRVWH2000 Heat Recovery Ventilator provides a continuous air change, replacing stale moisture laden and polluted air with fresh, warmed air from outside. Unlike conventional extractor fans which suck out and waste expensively produced heat; Kair KHRVWH2000 Heat Recovery Ventilators

recover up to 70% of exhaust heat by passing fresh air through a highly efficient heat exchanger, pre-warming this air utilising the heat from the extracted warm moist air from the house.



The ventilator is designed to be run continuously, recovering heat that would normally be lost by conventional extractor fans and passive vents and introducing fresh air into areas at a more comfortable temperature than if it was supplied directly from outdoors. The continuous controlling of Relative Humidity levels below 60% ensures that conditions will not exist in which condensation or mould growth problems can develop and thrive.

■ SITE REQUIREMENTS

The Kair™ Whole House Ventilator is designed for easy installation by use of standard rectangular or circular ducting. Installation can, if required, be undertaken entirely within a building with no requirement for external access using core-drilled 'through wall ducting cowls'. This feature can dramatically reduce installation costs on high-rise applications.

The Kair™ Whole House Ventilator unit should be sited as near as possible to an external wall, with input and exhaust points kept slightly apart to prohibit cross contamination of exhaust and supply air.

If it is intended to fit an extract grille in a room containing a fuel burning appliance, the installer must ensure that adequate provision for air replacement is available for both appliances in accordance with current Building Regulations.

All Health and Safety Regulations must be followed to prevent hazards to life and property both during and after installation. Fire compartmentalisation must be maintained in accordance with current Building Regulations.

■ CONTROL

The unique design of the unit including two separate motors allows the occupant to independently control both motors to provide either a balanced airflow with both motors running at the same speed level or as a positive airflow system with the input airflow faster than the extract.

Independent switching also allows for input or extract motors to vary pressures for Summer / Winter settings – internal bathrooms / kitchens variable life styles – multiple occupancy.

A range of manual or automatic controls are available including:

- K-2SPC – Two speed switch for manual override
- K-5SPC – Four Speed switch control plus off
- K-HC - Automatic switching two speed humidistat



■ SITING THE UNIT

Identify a suitable place in which to site the unit and ducting, taking into account the need to preserve the aesthetics of the dwelling.

The unit is best sited in a roof void or attic positioned close to the external air points. Alternatively the unit can be mounted in a suitable cupboard in the kitchen pantry or entrance hallway and should be fitted with minimal runs of ducting. Unless the unit is to be boxed in, it should NOT be sited in bedrooms or bathrooms. If the unit is to be installed in an unheated roof void, or similar location, it should be insulated together with any associated ducting.

All grilles should preferably be sited as near to ceilings as possible to take advantage of warm air convection.

Internal Extract Point(s):

Wherever possible, air should be extracted from 'wet areas' such as the kitchen, bathroom or other moisture producing areas. Avoid positioning the grille where air brought in may be excessively contaminated with odours or grease / airborne oil i.e. close to cooker.

Internal Supply Point(s):

Air should, wherever possible, be supplied to a central point such as the landing stairwell, passage, or entrance hall, to create pressurisation and continuous air movement. If individual supply points are desired, avoid placing these in positions such as above beds, showers etc. All ceiling mounted diffusers should be the side flow type rather than down flow type to avoid 'dumping' of air.

External Supply Point (fresh air intake):

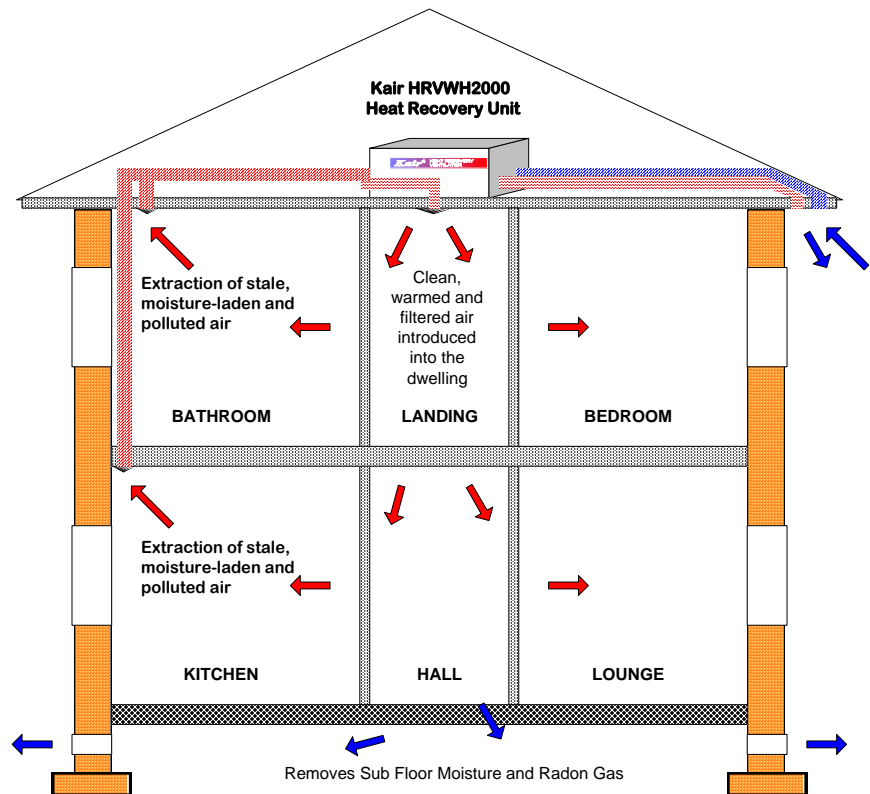
The external supply grille must be sited at least 1mtr away from the flue of gas or open fire appliances to avoid the possibility of backflow from exhaust gas in compliance with the requirements of Local Authority, Building Regulations and any other relevant Codes of Practice.

If the unit is sited in a loft, ensure that there is adequate ventilation within the loft space itself. If loft is not adequately ventilated, the supply duct should be fed directly from the outside air supply via ridge, tile or soffit vents etc.

External Extract Point:

Can be sited anywhere within reason but kept as far from window openings as possible. It should also be kept slightly apart from the supply feed grille so as to minimise cross contamination of input/exhaust air.

N.B. All plastic ducting terminals and joins should be sealed with mastic sealant to ensure airflow efficiency and insulated ducting with 'jubilee clips' or 'duct clips'.



■ INSTALLING THE UNIT

IMPORTANT: Ensure that the mains electrical supply is switched OFF before commencing installation or maintenance.

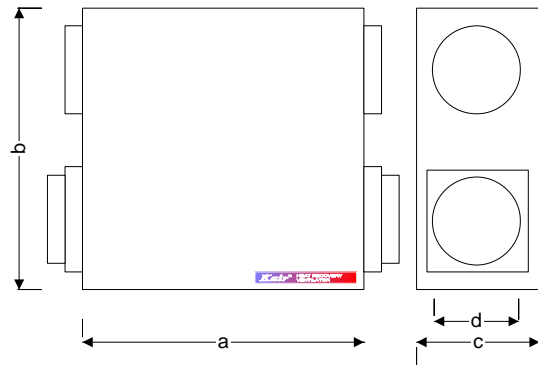
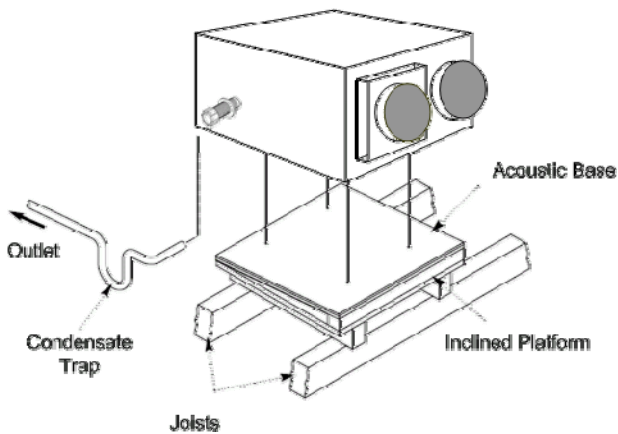
The Kair™ KHRVWH2000 is designed for easy installation.

The unit can be easily divided into smaller component parts where required to fit through narrow loft openings by simply unscrewing to four retaining screws on both the top and bottom cover.

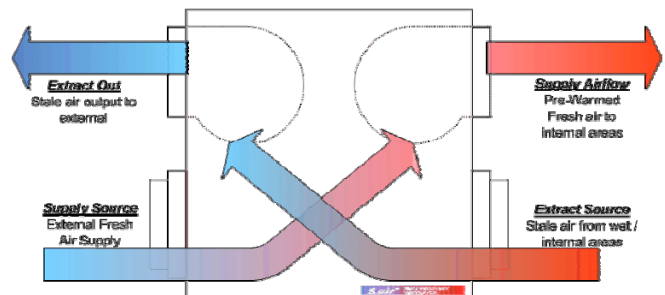
Screwdriver access must be provided to the sides of the unit to allow removal off unit lid for maintenance and filter cleaning and to the top to allow lid removal and heat exchanger servicing.

The unit may be installed vertically or horizontally.

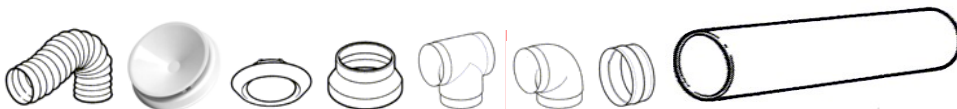
If the ventilation design incorporates extraction of air from any wet area, it is recommended that a continuous condensate drainage facility is connected to allow free discharge of condensate that may form within the unit. To ensure a fall to the condensation outlet the unit should be mounted on a frame or hung to provide an incline to enable a fall to the drain outlet. A pre-drilled blanking grommet can be removed to insert the drainage point into the machine. Drill the condensate drain to lower drainage point. A condensation trap should also be incorporated. A blocked condensate outlet pipe or inadequate fall will lead to unit damage.



Dimensions (mm)			
a	b	c	d
505	510	255	150



■ DUCTING THE UNIT



Full ancillary and spares list is available on request

WIRING INSTALLATION

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

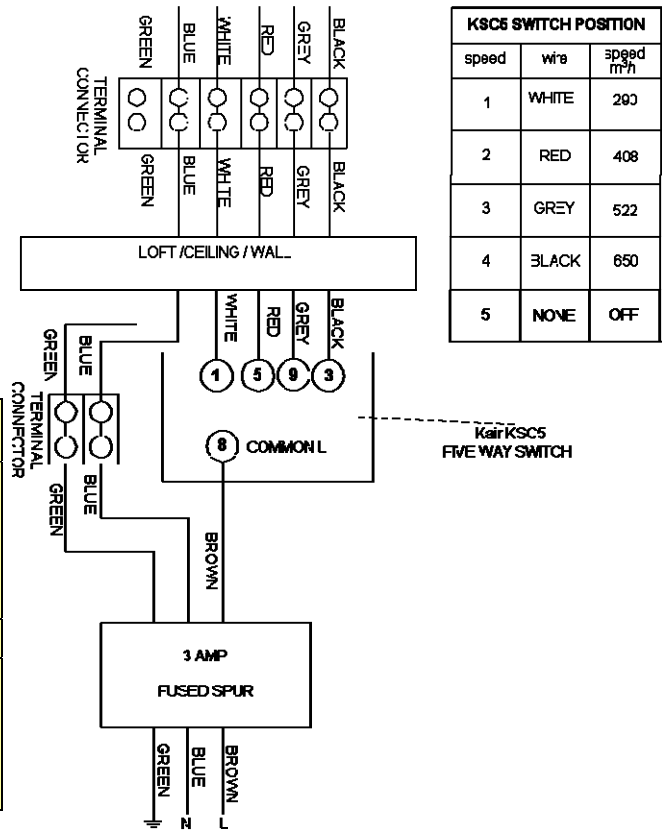
Although the unit is designed for continuous running, a double pole 3 amp fused spur should be provided to disconnect power to enable maintenance work to be carried out. The unit should be earthed at all times.

Dependant on design criteria, the unit has the option to be controlled in multiple ways; each motor can be separately controlled or hard wired together.

Speed	Wire Colour	Airflow m ³ /h	DBA	Watts	Heat Recovery
1	White	290	23	94	Up to 70%
2	Red	408	35	108	
3	Grey	522	46	127	
4	Black	650	58	190	
Voltage	230V				
<p><i>Typical Performance figures</i> <i>Figures are for individual motors</i> <i>Airflow measured at motor spigot</i> <i>Airflow will vary with filter and ducting runs</i> <i>Assuming an average of 80% trickle and 20% boost speed. Test with outside air temperature at 7°C and inside room temperature at 23°C</i></p>					

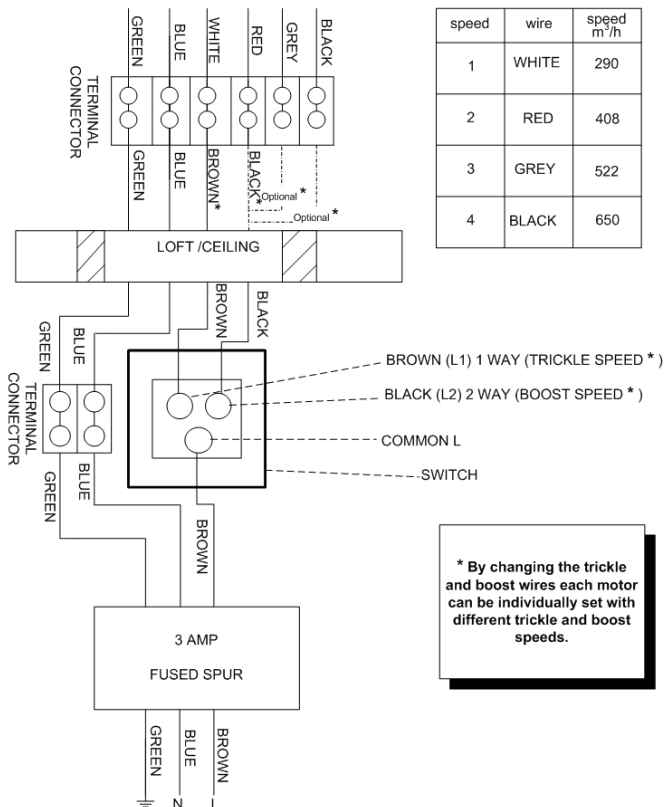
KAIR KHRVWH2000
Wiring diagram using KSC5 Five speed switch

Version 1.1



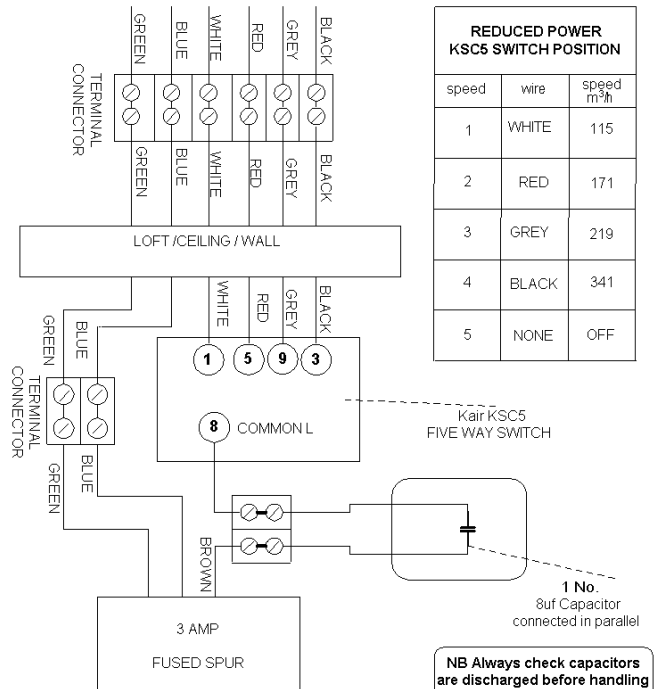
KAIR KHRVWH2000
wiring diagram using KSC2 Two speed switch

Version 1.2



KAIR KHRVWH2000
Wiring diagram using KSC5 Five speed switch - Reduced Power

Version 1.1



■ MAINTENANCE

As well as providing fresh pre-warmed air the ventilation system removes moisture, odours and airborne particles such as dust dirt and grease. These impurities gradually build up over time and degrade the efficiency of the heat exchanger and system in general.

It is recommended that the ventilation system is serviced annually (or more often in unusual, high use or commercial applications). Servicing should be carried out by a competent person.

Switch off the mains electrical supply to the unit before maintaining the unit.

Filters should be removed at 6 to 12 month intervals subject to site conditions and replaced or cleaned with a vacuum cleaner or washed (if a washable filter option has been chosen). Filters are housed externally in easily accessible filter casings.



Gently remove the heat exchanger and vacuum or wash in warm water using a mild detergent a subsequently dry thoroughly. Clean the interior of the unit with a vacuum cleaner and lightly brush the fan impellers. Disinfect the interior of the unit using a proprietary product. Check the drainage system for integrity of joints and ensure that water can flow freely.

Supply and exhaust grilles should be cleaned and kept clear of dust, organic debris etc to ensure free flow of air.

The motors are guaranteed for 2 years and are fitted with 'Sealed for Life' bearings, which do not require maintenance or lubrication.

Kair™ KHRVWH2000 Ventilator can be serviced and maintained from inside the building with no requirement for external access.

■ GUARANTEE

This guarantee is in addition to your statutory legal rights.

The product is guaranteed for two years from date of purchase against faulty materials or workmanship. In the event of any part found to be defective, providing that:

1. The product has been installed and used in accordance with the instructions accompanying each unit.
2. The product has not been connected to an unsuitable electrical supply.
3. The product has not been subject to misuse, neglect or damage.
4. The product has not been modified or repaired by any other person not authorised by the company.
5. If claiming under the guarantee, please contact the company for a returns number. Then, please return the complete product, carriage paid, to the company by a registered means noting the returns number on the unit and stating the nature of the fault and providing evidence of date and source of purchase.

■ INSTALLATION DETAILS

Installer stamp:

SERIAL NUMBER:
DATE INSTALLED:

■ SUPPLIER DETAILS

Suppliers stamp:

■ TECHNICAL ASSISTANCE

For technical assistance on any matter concerning this unit you may contact the above or the manufacturer:



Kair Ventilation Limited
Unit 6 Chiltonian Industrial Estate
203 Manor Lane, Lee, London
SE12 0TX
Tel: 08451 662240
Fax: 08451 602250
Web: www.kair.co.uk