

VHR & RHR Heat Recovery Units

Installation, Operation & Maintenance Instructions

Dunham-Bush Ltd, Downley Road, Havant, Hants PO9 2JD
023 9247 7700 info@dunham-bush.co.uk
UK:www.dunham-bush.co.uk Global:www.dunham-bush.com



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INSTALLER: Please leave these instructions, heater wiring diagram & access panel keys with the user.

1. Do not install this product in areas where there is likely to be:
 - Oil or grease laden atmosphere
 - Flammable or corrosive vapours, gases or liquids
 - Direct water spray
 - Ambient temperatures lower than -10°C or higher than 50°C
 - Obstructions to the unit for access or removal
2. Wiring is to be in accordance with current IEE regulations or locally relevant standards and should only be carried out by a suitably qualified person. The installer is responsible for the safety and suitability of the installation and all wirings and electrical connections.
3. All regulations are to be strictly followed to prevent hazard to life and property during installation and subsequent servicing and maintenance.
4. Ensure that the mains supply is strictly in accordance with the unit instructions and rating label.
5. All units must be earthed and checked for continuity.
6. All units should be provided with a local means of electrical isolation and should be isolated prior to any access for maintenance.
7. The unit condensate drain pipe must be connected to a suitable building water drainage system via a suitable air trap.
8. All VHR & RHR heat recovery ventilation units are designed to operate specifically with Dunham-Bush Ltd control systems.

Installation, Operation & Maintenance Manual For: Dunham-Bush Ltd VHR Series Heat Recovery Units.

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1) - HEALTH AND SAFETY

Working Conditions and Pre-Installation check.

This section "working conditions", deals with the hazards that could be encountered when any work is carried out on the equipment for which this manual is written.

Therefore the following points should be observed to avoid injury or health hazards.

The unit shall be checked that:

a) It is suitable for the electrical supply available.

CAUTIONARY NOTES:

NO PART OF THE UNIT SHALL BE DISMANTLED UNTIL A CAREFUL STUDY HAS BEEN MADE OF THIS MANUAL. THIS MANUAL DEALS IN DETAIL WITH THE ERECTION, COMMISSIONING AND SERVICING AND SHALL BE STRICTLY ADHERED TO.

WHENEVER ANY MAINTENANCE WORK IS DONE WITHIN THE UNIT, THE INTERIOR SHALL BE LEFT CLEAN AND ACCESS PANELS SHALL BE CORRECTLY FASTENED.

2) - DELIVERY

Receipt of Equipment.

Upon receipt of equipment a visual inspection shall be made and any damage noted on the delivery form.

Particulars of any damage or short delivery should be endorsed by the driver delivering the equipment. No responsibility can be held for damage sustained during the unloading from the delivery vehicle or on the site thereafter.

All claims for damage or short delivery should be made to Dunham-Bush Ltd within three days and confirmed in writing within seven days of receipt of the equipment.

3) - OFF LOADING AND HANDLING

3.01 All VHR units should only be lifted by the slotted mounting flanges; built into the casework on either side of the chassis.

3.02 Lifting and positioning for ceiling mounted options should be undertaken

b) It is suitable for the atmosphere and environment in which it is to operate.

c) It is suitable for the working media, temperature, and pressure for which it is to be used.

d) It is manually isolated from the mains power supply before any work is carried out. Do not open the unit whilst the fans are still running.

e) Electrical equipment is earthed to comply with I.E.E. regulations and local by-laws and checked for full earth continuity.

using a suitably sized genie lift, ensuring the unit is supported evenly across the access panels.

3.03 Particular attention should be paid to protection of the condensate drain tube during site handling and erection.

4) - ERECTION OF THE UNIT

Access to unit

4.01 Before mounting the unit in position it is advisable that consideration is given to access to the unit, with particular reference to the following:

That provision is made in the plant room or wherever the unit is installed for access to remove: Filters, Fans, Fan plate assemblies.

Electrical enclosure covers.

4.02 On larger models with components that cannot easily be manhandled consideration should be given for hoists or crane and provision should be made for their use.

5) - INSTALLATION

5.01 All units must be installed in accordance with good engineering practices and standards, correctly orientated, true and level.

5.02 Flexible connectors are not essential for connecting ductwork to the units; however, the use of these may overcome any site ductwork misalignments.

5.03 Condensate drain tubes should be connected to a nearby drainage stack via a suitable condensate trap and fittings with adequate 'fall-to-drain'.

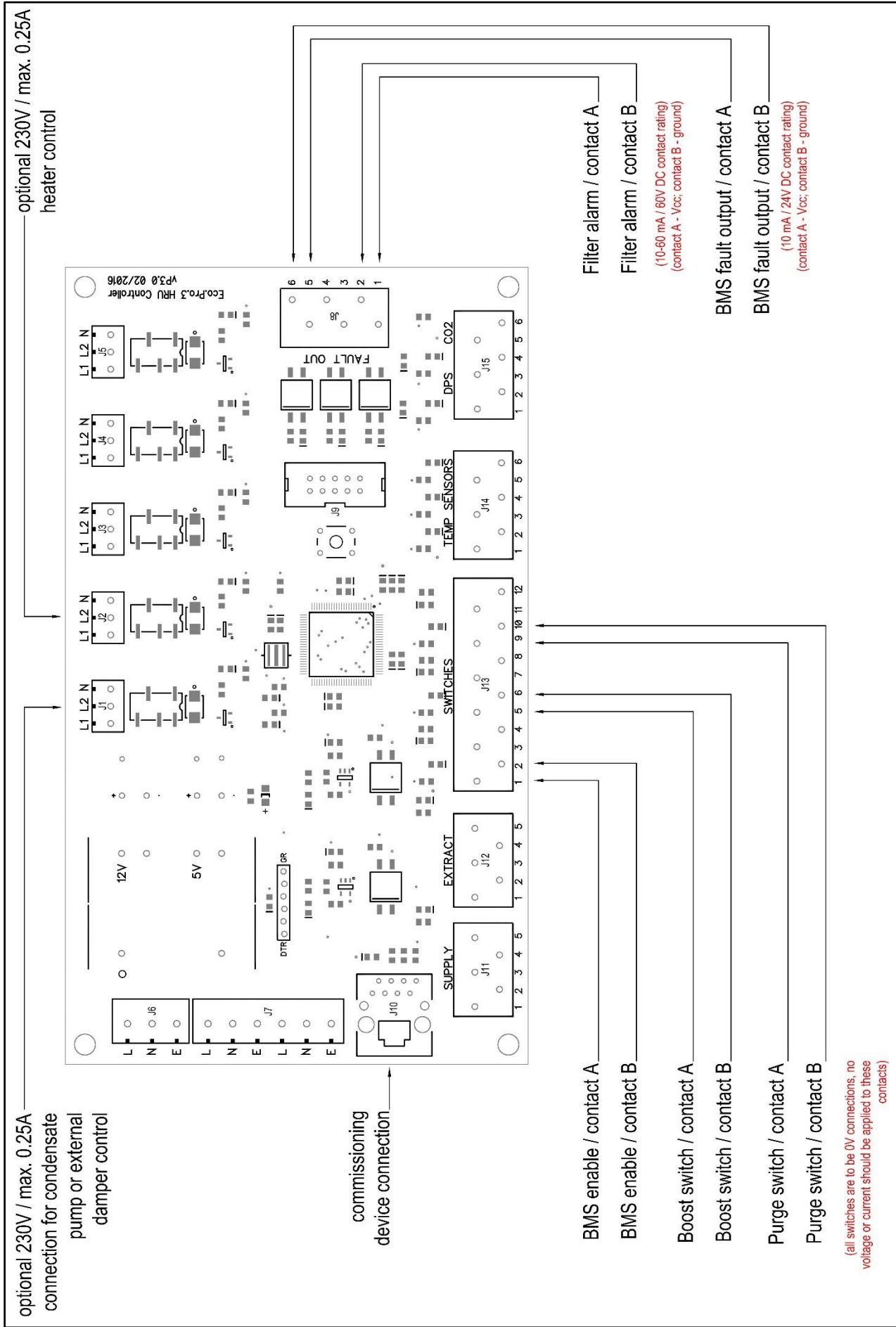


Diagram 3 - Site wiring of Classmaster with ECO-PRO3 control system

6) - UNITS HELD IN STORAGE CONDITION

Unit Interior and Exterior Surfaces

6.01 Interior

If ducting is not connected it is essential that all inlet and discharge openings are completely sealed with polythene sheet and duct tape.

Whenever any access panels are removed for inspection purposes they are to be replaced and made secure with care to be taken not to damage the seals.

6.02 Exterior

The exterior shall be kept free from any falling building materials, dampness or extreme cold or heat. It is advisable to encapsulate the unit in bubble-wrap where possible. Exterior surfaces should be checked on a monthly basis and any signs of corrosion or scratches should be treated immediately.

6.03 Static indentation

Machines fitted with ball bearings may be damaged if left stationary for long periods. The balls and races may suffer damage by fretting corrosion, (false brinelling), stationary vibration or static vibration marking. Consequently: no motor should be permitted to stand on a vibrating floor while in storage, manually rotating the motors during the monthly inspection will reduce the risk of these effects occurring.

6.04 For all accessory module storage instructions please refer to appropriate section within the specific manual. The foregoing instructions are intended to preserve the life of all static and moving parts of the equipment during the period of storage. It is advisable that regular attention to the

8) - SERVICE AND MAINTENANCE

General

This section of the manual deals with the requirements for service and maintenance of the equipment.

It is essential that the following instructions are carried out to ensure long life.

WARNING: It is essential that before any work or maintenance is carried out, the unit must be isolated from the electrical supply.

8.01 Electric motors

All fan motors are fitted with sealed for life, maintenance-free bearings requiring no servicing.

8.02 Filters:

Filters should be checked on an annual basis and replaced where necessary. N.B. To maintain catalogue performance and reduce maintenance periods only genuine Dunham-Bush Ltd replacement filters should be used.

8.03 Heat exchangers should be checked and any dirt or dust should be removed with a soft brush.

8.04 Dampers:

Dampers should be checked for ease of movement.

Lubrication of the pivots with a PTFE / Silicone dry lubricant should be carried out every two years, ensuring any excess lubricant is wiped clean.

8.05 Access Panels

During the routine servicing of the unit; ensure that when an access panel is removed the gasket seals are not damaged.

equipment is maintained. When the equipment is put into commission this manual is to be strictly adhered to. The procedures detailed above are particularly brought to your attention and do not exclude other necessary procedures commensurate with good engineering practice.

7) - COMMISSIONING OF THE UNIT

Motor

Note: It is essential that the unit be completely assembled prior to being run, all ductwork is securely fixed and access cannot be made to the rotating parts of the unit.

7.01 Access to the fans is made by removal of the access panels.

7.02 Access panels are retained by screw fixings or key operated locks and should only be opened by a competent or qualified person once they have familiarised themselves with this manual.

7.03 With the unit completely isolated from the power supply; remove the access panel and check all fans for free rotation, and all dampers for free movement.

7.04 The unit shall be connected to an appropriate Dunham-Bush Ltd control panel in accordance with I.E.E. and local by-laws and wired to the appropriate wiring detail issued with the unit.

7.05 Earthing.

All units are connected internally to the earth wiring; however it is recommended that a separate earth is made to the casework of the unit and checked for continuity.

7.06 Test run both the supply and extract fan motors to ensure correct operation.

Seals should remain in position when the access is removed and form a complete frame around the opening aperture to give positive seal on closure. Ensure all retaining screws are fitted and correctly tightened / adjusted to retain the access panel securely.

8.06 Condensate Drain

During filter inspection/replacement it is recommended to check the condensate drain connection is free-flowing. Any build-up of dust deposits should be cleared before re-starting the unit.

9) 5-YEAR INSPECTION

9.01 Screws and fixings to be checked for tightness.

9.02 Electrical terminations checked for tightness.

9.03 Check of all wiring to ensure no damage has occurred to insulation.

9.04 Check wiring looms are correctly retained and not stretched between terminations.

9.05 Casing to be checked for any signs of corrosion, any affected areas to be suitably cleaned and treated.

ROUTINE MAINTENANCE SCHEDULE

ITEM

Yearly

Filters 8.02

Heat exchangers 8.03

Declaration of Conformity

Eco-Airvent Ltd of 20-22 Bedford Row, London, WC1R 4JS declare conformity of the VHR range of Non-Residential Ventilation Unit (NRVU) product with the following Statuary Instrument: -

SI 2008 No. 1597 "The Supply of Machinery (Safety) Regulations 2008"

SI 2016 No. 1091 "The Electromagnetic Compatibility Regulations 2016"

SI 2016 No. 1101 "The Electrical Equipment (Safety) Regulations 2016"

By virtue of compliance with the following and associated standards: -

BS EN 55014-1, -2 Electromagnetic Compatibility - Requirements

BS EN 61000-6-1, -3 Electromagnetic Compatibility - Immunity and Emission

BS EN 60 335-1, -30 Electrical Safety - General Requirements

BS EN ISO12100 Safety of Machines

For and on behalf of Eco-Airvent Ltd



Colin Broom
Director
London 1st January 2021.

NOTE

Any queries concerning the airside performance should be accompanied by details of the measured air volume, together with the static pressure at the intake and discharge sides of the unit, together with details of supply voltage at the fans.

It is possible that faults attributed to an air movement product may be traced back to items, such as dirty filters, blocked ducts or incorrectly set dampers.

Please check these before proceeding any further. Sound power level data is provided for each unit, this should be utilised in all investigations related to noise attenuation for the system.

INVALIDATION OF GUARANTEE

The following misuses or maltreatment of Dunham-Bush Ltd equipment will render all

guarantees, as set out in Conditions of Sale, void.

1. Failure to install set up or put to work any part of the equipment as specified in the Dunham-Bush Ltd Installation, Operating and Maintenance Instructions.
2. Attempting to operate motors and other equipment with an electrical supply other than that designed on the equipment data label, or failing to connect and protect such equipment in accordance with I.E.E. regulations and local By-laws.
3. Failure to notify Dunham-Bush Ltd. of equipment damaged on receipt and confirming in writing within seven days of receipt of equipment.
4. Modification to designed arrangement or performance without prior written approval of Dunham-Bush Ltd.
5. Damage caused to equipment on site through lack of adequate protection from the elements or misuse by other trades.
6. Failure to observe all normally accepted engineering practices during installation, commissioning and subsequent operation of equipment.

SPARES/SERVICE

PLEASE WRITE THE DETAILS OF THE UNIT HERE.

These details will be required when ordering spares for your Dunham-Bush VHR Series Heat Recovery Units.

UNIT TYPE AND MODEL INFORMATION

SERIAL NUMBER

DATE OF INSTALLATION

Spare parts/service - Please contact our office, contact information shown below.
Manufacturer reserves the right to change any product specification without notice.

