VES Ref I.D. 172
Issue D
Oct 2007

USER MANUAL

For the Weathermaster and Extract Fan Models WM-W, WM-E, WS, WE.

This manual must be read in full before installation, operation and maintenance of the units supplied.

PLEASE ENSURE THAT THIS INSTRUCTION DOCUMENT IS PASSED ON TO THE USER OF THE UNIT

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WEEE Directive
At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre.
Do not dispose of with normal household waste.
Do not burn

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All details correct at time of going to press.

We reserve the right to alter specifications without notice. E.&.0.E.

INSPECTION ON RECEIPT OF GOODS

Immediately on receipt of any unit check carefully for possible damage in transit, paying particular attention to heating coil connections, motor shaft and impeller, and flexible connections. Please also check unit to ensure that ancillary items are included, these will normally be packaged inside the unit.

In the event of any damage having occurred or any item is found to be missing, it is essential to inform VES Andover Ltd., **WITHIN 7 DAYS** of delivery, quoting S.O. No. and unit type from its nameplate. After this period we will be unable to accept any claim for damaged or missing goods.

SAFETY

When installing or using our products the following precautions must be taken.

Electrical Wiring - All electrical connections to any unit must be carried out in accordance with the current edition of the I.E.E. Regulations and only competent electricians should be allowed to effect any electrical work to our units.

1. Before attempting to carry out any maintenance work or repair work on our units, the unit **MUST BE COMPLETELY ISOLATED** from its electrical supply. This is particularly important for units with an electric heater battery. Once the access panels have been removed there is danger from exposed live elements.
2. If it is necessary to carry out any assembly operations before installing the unit, ensure that all fastenings are tightened securely.
3. The security of fastenings and the integrity of components should be checked regularly as part of the routine maintenance operation. Particular attention should be paid to the impeller fixing to the shaft.
4. Where a unit is installed so that a failure of components could result in injury to personnel, precautions should be taken to prevent such an injury.

It is the responsibility of the installer to ensure that the installation complies with the legal regulations and the current Health and Safety at Work Act.

INSTALLATION

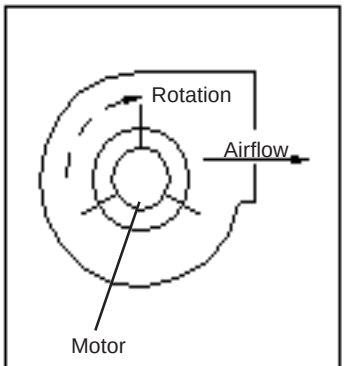
The Weathermaster units and silencers are designed to fit directly to propriety 20/30 mm Mez Flanges. Silencers are supplied loose. Ensure that they are fitted the right way round. Channel bases with AV's and feet are supplied fitted, all other components are supplied loose, but are easily assembled using the fastenings supplied.

Access: The lids of all WM units are removable to allow access for installation and servicing.

Voltage: Do not connect any unit to an electrical supply voltage outside of that indicated on the motor or fan unit name plate.

Duct Connection: Do not support ductwork from any Weathermaster unit.

Direction of Rotation: Proper performance will occur if the impeller is rotating in the correct direction.
Refer to the diagram for appropriate fan to ensure correct working details which then result in the correct direction of rotation.



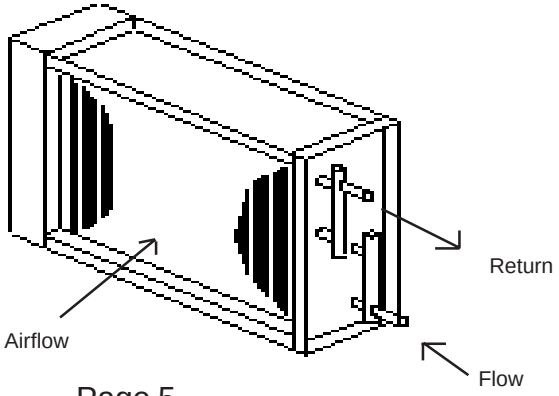
Direction of Rotation
for centrifugal fans

UNITS WITH HOT WATER COILS

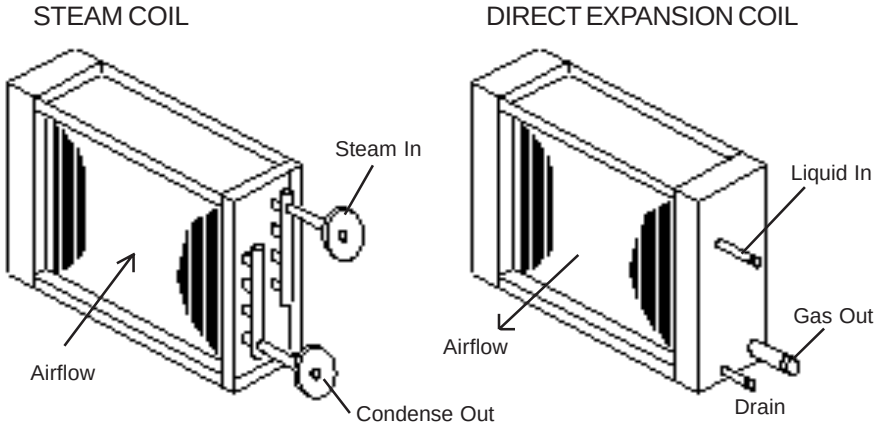
The Weathermaster WM-W units contain hot water coils with two rows of copper tubes expanded into aluminium fins. They are suitable for low pressure hot water at 82°C flow, 71°C return temperatures, unless otherwise specified and supplied.

Winter Conditions - It is important that water coils are protected against damage from frost during winter. A frost stat should be installed before the coil to instigate hot water flow through the coil, or shut the inlet damper if one is fitted.
Air vents and drains are not supplied fitted to the coils. These should be fitted during installation in the pipework adjacent to the coil. Should the coil be at a high point in the system it should be regularly vented, as air locking will progressively reduce the coil output.

Overheating - It is esential that a run on timer is installed for the fan so that when the system is shut down the residual heat radiated by the heating coil is dissipated to avoid damage to the motor. The hot water supply should be piped to flow to the bottom connection and outlet via the top connection.



Steam Coils - Steam coils are suitable for use with saturated steam up to 100 psi. The pipework shall be so arranged to provide adequate drain lines with suitable strainer and steam trap. All steam and drain lines should be lagged. The supply shall be taken from the top of the steam main to avoid the introduction of moisture or air into the coil. The pipe shall be so arranged so that it does not interfere with coil expansion.
Where steam coils are fitted it is essential that a time delay is installed in the fan starter control circuit. The fan shall be kept running for at least two minutes after the coils have been shut off so that the residual heat is dissipated.
If the pipe run is unduly long and prone to water logging, it should be properly trapped just before the coil. If the steam is from a high pressure steam main, it is essential to have a working pressure valve on the low side to ensure that dangerous overheating of the air and excessive pressure cannot occur.
DX and Condenser Coils - These must be connected to the systems in accordance with accepted refrigeration codes of practice and if fitted upstream to steam or water coils, care must be taken to ensure that the air temperature does not drop to below 0°C.



ELECTRIC HEATER UNITS

WM-E units contain electric heater batteries and the following should be checked:

1. Supply to the heater should be 1ph or 3ph with separate neutrals, refer to name plate.
2. Cables should be silicone ruber, fibreglass or similar high temperature insulated type and be installed to current I.E.E. Regulations.
3. The heater is fitted with manual reset high temperature cutout which has N/C (normally closed) terminals. This must be connected in series to the main contactor coil circuit, to isolate the heater in the event of over temperature (i.e. air flow fialure).
4. Ensure that there is sufficient earth connection to the terminal provided.

The minimum air volume as stated on the unit name plate must be maintained or the thermal overload will trip and will have to be reset manually.
To remove the electric heater battery, first remove the terminal box cover, this will give you access to the set screws holding the main battery.
Speed controllers - If a speed controller is fitted to the system, it must not switch off the fan independent of the control system, or allow the air flow to fall below the stated volume on the electric heater battery.
Thermal Cutout - Every heater is fitted with a thermal cutout which will break contacts when the duct temperature rises above 130°C (see checking notes above). This type is provided to comply with M & E specifications and will require removal of the terminal box cover to reset. (Supply must be isolated before removing cover). Maximum switching 12A single pole.

Control System:
A suitable control system should be provided and should include a timer to keep the fan running for two minutes after the system has been shut off. The standard VES Andover CPEH panels are designed for easy operation and connection to all VES electric heater batteries. Standard heaters are suitable for 1ph or 3ph control with neutral connection.

Connections:
A 20mm conduit hole is provided in the electric heater terminal box.
N.B. Terminal pillars are fitted to element studs and care should be taken not to strain studs which could damage the element permanently. Always fit an isolator for maintenance of heater.

MAINTENANCE

In general this series of units require very little maintenance.
All fan bearings are supplied fully greased and lubricated.
In the unlikely event of failure, then a new motor kit should be fitted. We would however advise the following periodic checks:-
Filters: Filters should be inspected regularly every three months. If they are found to be heavily soiled or damaged they should be replaced. Spares for all units are held in stock at the VES factory.
Impellor cleaning: At approximately six monthly intervals, the impellor should be cleaned using a vacuum cleaner and a soft brush. Failure to clean the fan from time to time will result in a loss of performance or cause it to become out of balance.
Dampers: Clean blades, cogs and frames and lubricate with a PTFE aerosol lubricant or equivalent. Failure to keep dampers clean, could result in the damper becomming jammed.
Paint Finish: Every twelve months check all painted surfaces to ensure they have not deteriorated, particularly where adverse environmental conditions prevail. Repaint if necessary to the required standard.

SPARES

Spares (or direct replacements using improved components) are normally “off the shelf” and will be held in stock for all units in the series for a minimum of 10 years.
We would recommend that a spare motor pack be held for those units which are installed in critical areas or for units that have to run on a continuous basis.
To obtain a spare motor kit please advise our Sales Department of the type of unit for which the kit is required. This can be obtained from the unit name plate.
Recommended Spares: A list of spares recommended to be held for a specific unit is available if required. Please contact our Sales Department quoting the unit type and S.O. No., both of which are obtainable from the unit name plate.
Filters: Replacment filters are available “off the shelf”. These are sold in boxes of 10. Contact our Sales Department.

AFTER SALES SERVICE

The VES Customer Service Department can undertake a maintenance check on air handling units as follows:

Replace:

Replace filters
Flexible connections
Check operation of A.V. mounts
Replace missing fasteners

Report:

Prepare a report on the the condition of fan and motor bearings, cleanliness of coils, condition of A.H.U. case with special regard to leakage and corrosion.

Please contact the VES Service Manager for scale of charges.

Declaration of Conformity

Date: 27 Nov 2002

Product: Weathermaster and Extract Fan models

Type: WM-W, WM-E, WS, WE.

Manufacturer: VES Andover Limited

The product above is produced in accordance with EC Council Directives:

89/392/EEC in the version 93/44/EEC (Machinery Directive)
89/336/EEC and amendment 92/31/EEC (Electromagnetic Compatibility Directive)
73/223/EEC and amendment 93/68/EEC (Low Voltage Directive)

The European Harmonised Standards applied are:

EN 292-1, EN 292-2, EN 294, EN 50082, EN 60204-1

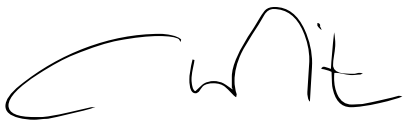
The National Standards applied in particular are:

BS 848 Part 1

Basis of self attestation:

Quality Assurance to ISO 9001-2000, BSI Reg. Firm Cert. No. Q5375

Signature of Manufacturer:



Position of Signatory: Technical Director

Warranty

Extended Warranties
All VES Andover Products come with a one year guarantee from date of dispatch, which covers parts and labour.
You can now extend this with the following options:

Option 1. **FREE extended Warranty**

We can offer you a maintenance agreement that keeps this equipment in tip-top condition.
If you take out this agreement, we will extend the warranty **free of charge for up to 5 years,** providing the regular maintenance agreement remains in place.

Option 2. **12-24 Month Extended Warranty**

12-24 months from the date of dispatch. This can be covered at a cost of just 3% of order value. (minimum charge £50.00).

Option 3. **12-36 Month Extended Warranty**

12-36 months from date of dispatch. For this cover, the charge is 6% of order value (Minimum charge £80)

Please State which option you require when you place your order. A transferable certificate will then be issued to you.
Please note, this offer excludes condensing units. We would be happy to quote you for these separately.

Register for separate spares reminders and get a 10% discount

Register for this free service and we will automatically send you a regular reminder detailing the consumable spares for this unit, together with their current list prices.

You will then be entitled to a 10% discount off any spares.

To arrange any of these options.

Phone: 08448 15 60 60
or Email: spares@ves.co.uk

Stating the sales order and reference number from the unit.