

Air Handling Units - External (EMW/EC) Installation, Operation and Maintenance Manual

Introduction

Designed for external applications, the EMW/EC range encompasses 5 models of direct driven centrifugal air handling units with airflow duties up to 0.6m³/s.

Motor windings are fitted with an auto-reset thermal cut-out.

Motors are pre-wired to an external terminal box trickle – boost speed controller and isolator.

Units complete with integral G3 panel filter and LPHW heater coil.

General Construction

Casework is manufactured from 0.9mm to 1.6mm thick galvanised sheet steel with an 'O' class foam / barrier mat sandwich insulation to provide acoustic insulation.

Access is via removable side panels. Inlet via bird-mesh protected cowl.

Inspection Upon Receipt Of Goods

Immediately upon receipt of any goods, a careful inspection should be undertaken to ensure neither damage nor missing parts. Particular attention should be paid to the fan impeller, motor shaft, anti-vibration mounts, flexible connection, coil connection and casework.

In the event of such damage or loss having occurred, inform AVT (01264 356415) WITHIN 3 WORKING DAYS of the delivery date, giving the serial number which can be found on the name-plate. After this period we will be unable to entertain any claim for loss or damage.

Handling

Units must be handled with care to avoid damage, particularly units being craned into position. Attention must be paid to the coil connections. A spreader bar should be employed to prevent damage to the top of the unit.

Installation

When installing our equipment, the following must be observed:

Safety: 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.

Ambient Temperatures: The range of units covered by this manual are designed for use in an environment where the ambient air temperature is unlikely to exceed 40°C.

Mounting / Positioning: These units must be mounted in the horizontal plane and on a completely flat base.

EMW/EC units have integral mounting feet.

Duct Connections: Adjoining ductwork should always be independently supported to avoid undue stress on the unit casing. Impellers are statically and dynamically balanced, and anti-vibration mounts and fast clamps are available to suit.

Access: All units are designed with easily removable components for maintenance purposes. Sufficient room should be allowed adjacent to the unit to allow components to be withdrawn.

Electrical Wiring

Electrical supply must be fully isolated before attempting any work on the unit.

All wiring should be carried out by a competent electrician and should comply fully with the current I.E.E. Wiring Regulations.

The electrical supply must be as stated on the nameplate.

When the wiring is complete, check for free and correct rotation of the fan impeller

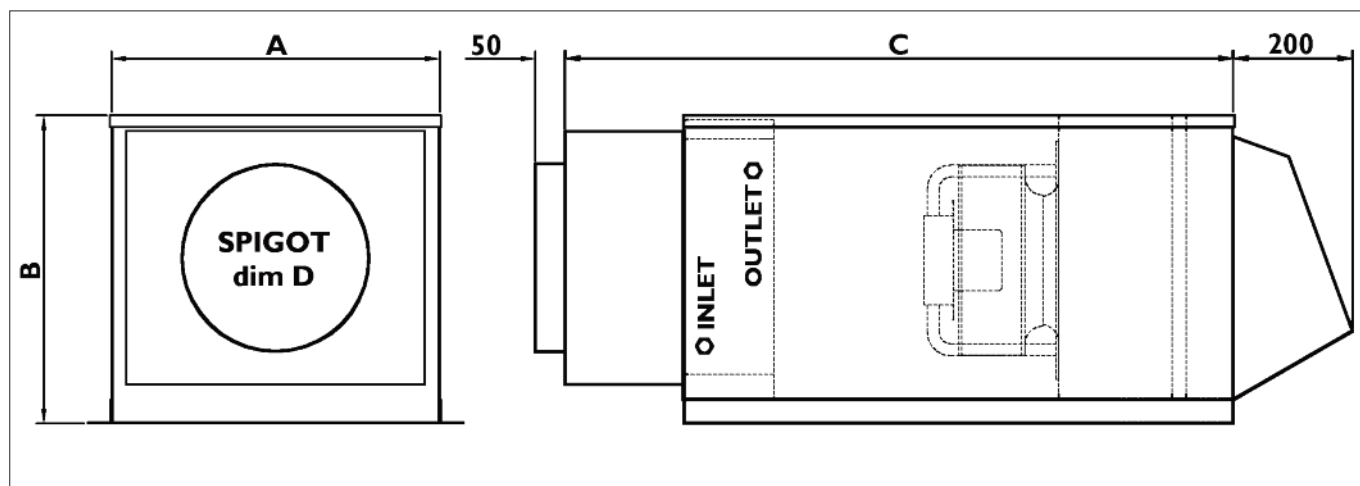
Maintenance

3 Monthly: Filters should be inspected and if found to be heavily soiled, replaced.

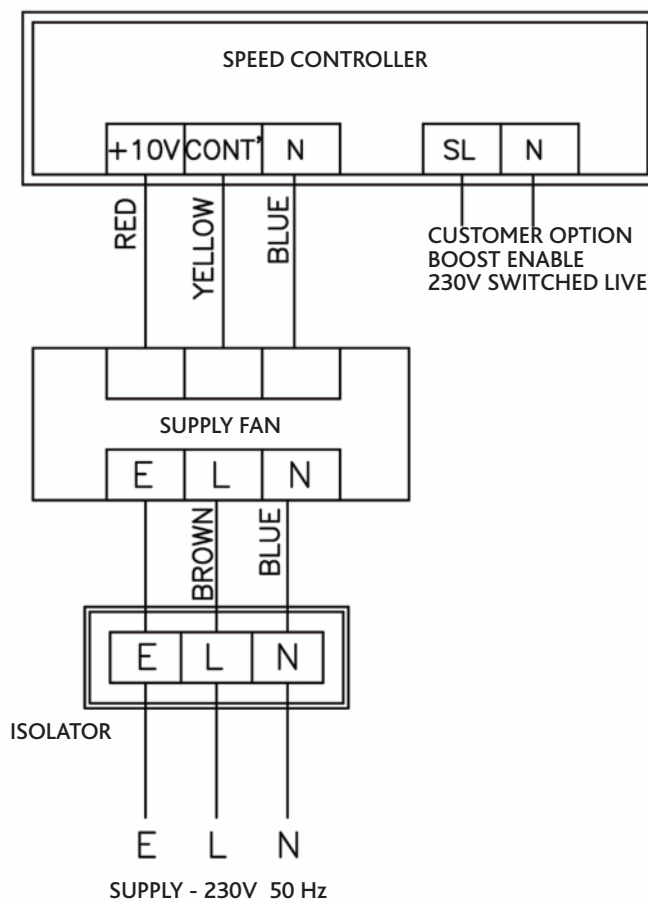
6 Monthly: The fan impeller should be carefully cleaned with a brush. This will prevent the impeller from becoming unduly dirty and unbalanced.

12 Monthly: The security and integrity of all fastenings should be checked, particularly the motor mounting frame.

	Motor Power	Phase	FLC
EMW12EC	52 W	1 ph	0.40 A
EMW15EC	52 W	1 ph	0.40 A
EMW20EC	70 W	1 ph	0.55 A
EMW25EC	170 W	1 ph	1.40 A
EMW31EC	510 W	1 ph	3.10 A



COMPACT AHUs - EXTERNAL - LPHW					
Model	A	B	C	D	kg
EMW12EC	400	350	900	125	30
EMW15EC	400	350	900	150	30
EMW20EC	425	375	1000	200	40
EMW25EC	650	450	1070	250	45
EMW31EC	650	475	1120	315	50



LPHW Coil

Installation

Before installation check the coil for any minor fin damage and use a fin comb to reinstate the fins.

Check that the handing of the coil is correct for your application. The handing is determined whilst looking in the direction of airflow and relates to the position of the connections.

Install all coils with the tubes horizontal and level. This applies whether the airflow is horizontal or vertical. The reason is that this will allow for the most effective venting of the coil.

Coils are not to be used with the tubes vertical or inclined upwards unless this was agreed at the design stage.

Where coils are incorporated into ducting, it is important that they are properly installed.

Suitable sealing methods should be employed to prevent air bypassing the finned area of the coil.

The ducting should be fitted to the coil by removing the end covers (where fitted) and drilling through the coil platework and bolting into position. Care should be taken to protect the headers and return bends by using a piece of wood or sheet metal behind the platework being drilled. A suitable sealant should be used to seal the joints and when replacing the end covers.

Access should be provided to both ends of the coil, without the need to remove any of the external pipework, for the purpose of inspection, cleaning and maintenance.

Piping

Coils should be piped such that the water flowing into the coil is at the end where the air leaves the coil. This will give counterflow and the greatest heat transfer.

Coils should be piped according to any relevant local codes of practice.

Where threaded connections are supplied, the only approved method of jointing is by use of Boss white and hemp. The thread fitted to the coil is to be supported at all times whilst making joints. All external piping is to be supported independently from the coil.

Fluid filters are recommended.

Maintenance

Finned surfaces should be inspected regularly and cleaned if necessary.

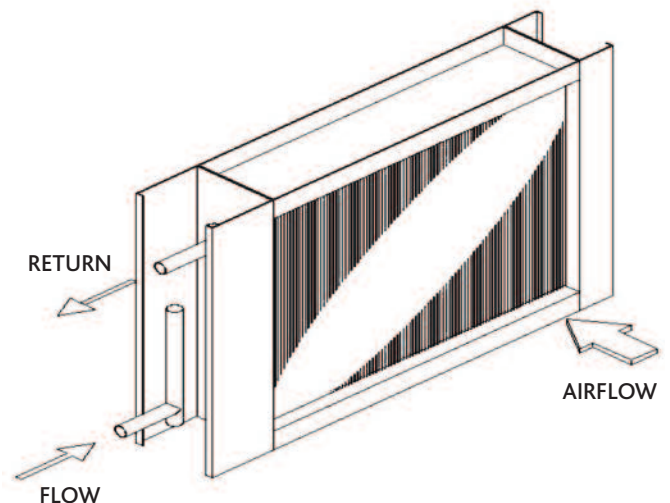
Filters should be regularly changed to maintain constant air flows.

The coil should be inspected for signs of corrosion.

Circulating fluid should be kept free from impurities and corrosive elements.

Vent air from the coil on a regular basis. Automatic air vents are recommended.

Check all connections and tighten if necessary.



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