



## Air Vent Technology Ltd,

Unit 1 Regents Court, Walworth Industrial Estate, Andover, Hampshire, SP10 5NX  
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# HRP350/EC HEAT RECOVERY UNITS

## Installation, Operation & Maintenance Manual

### Introduction

Designed for internal applications, the HRP350 range encompasses 2 models of direct driven centrifugal fan units with airflows up to 0.4m<sup>3</sup>/s. Motors are pre-wired to an external terminal box trickle / boost speed controller & isolator. Heat recovery is handled via plastic cross-flow heat exchanger module with fitted motorised face & by-pass damper. Duct mounted supplementary LPHW or EHBs can be supplied as an option.

### General Construction

The HRP range of units is of a standard construction of a 25mm thick double skinned case. The case has inner and outer skins of spangled galvanized sheet steel and is filled with 45kg/m<sup>3</sup> density mineral wool slab. Access is via removable side panels, bottom access can be accommodated as a custom option

### 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, coil connections 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 nameplate. 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. A spreader bar should be employed so as 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 mounted on a completely flat base.

Duct Connections: Adjoining ductwork should always be independently supported to avoid undue stress on the unit casing. Impellers are statically and dynamically balanced, anti-vibration mounts and flexible flanges 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 to affect 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 & correct rotation of the fan impeller

### Heat Recovery

Units fitted with Cross Flow Plate Heat Exchangers **MUST** not have the supply and extract fans run independently from each other as this will cause damage to the heat exchanger module. It is also recommended that an interlock be fitted within the controls to turn both fans off in the event of one failing.

### 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 become unbalanced. Damper cogs, blades and frames should be cleaned and lubricated with a PTFE or silicone oil aerosol lubricant.

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



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**Heat Exchanger:-**

Plate heat exchangers have no moving parts, therefore only minimal maintenance is required. Periodically inspect heat exchange matrix for any debris, dust or dirt build up. If found it should be removed by one of the following methods.

Superficial dust or debris can be removed from the surface of the heat exchange matrix by gently brushing with a soft long haired brush. Loosened debris can then be flushed through with warm water or vacuumed from the surface of the matrix.

Stubborn deposits can be removed by using a low pressure washer with an approved detergent solution. The solution temperature should not exceed 50°C. When using any pressure device care must be taken not to damage the heat exchange matrix.

Under **NO** circumstances should the heat exchanger be steam cleaned.

**Spares:**

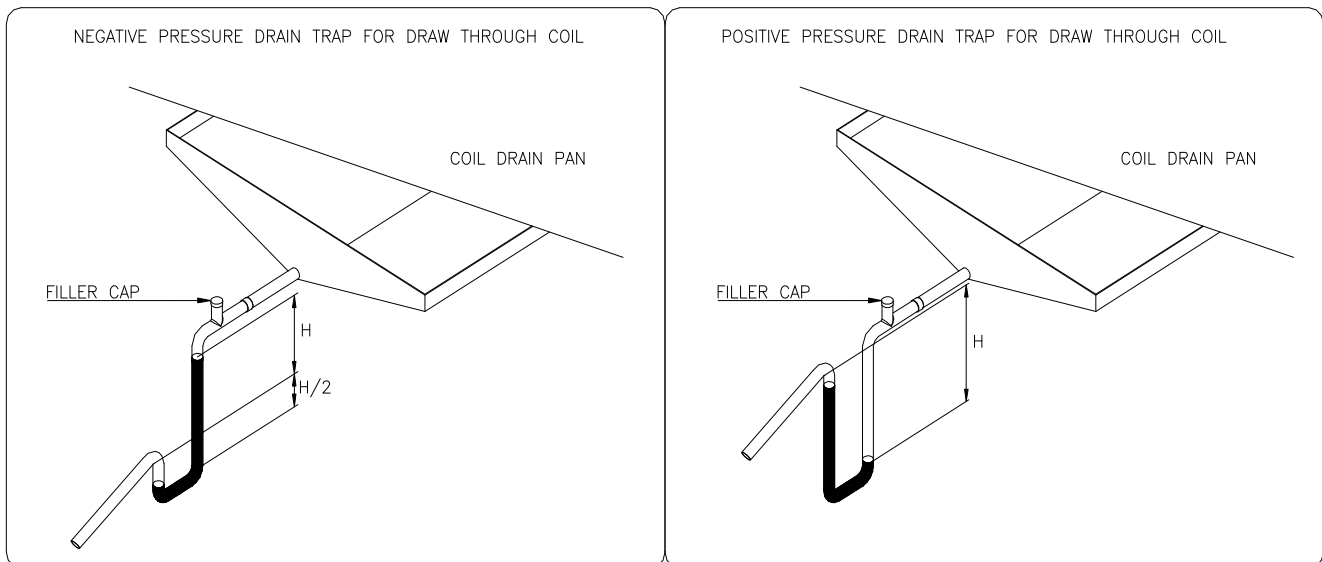
Spare parts or direct replacements are normally held in stock and are available for a period of up to 10 years from installation.

Any spare part can be ordered by contacting AVT (01264 356415) and quoting the unit serial number which can be found on the nameplate.

A complete list of recommended spares can be issued upon request.

**Trapping**

Correct trapping of the condensate line is essential to prevent flooding or liquid splashing back into the drain pan.



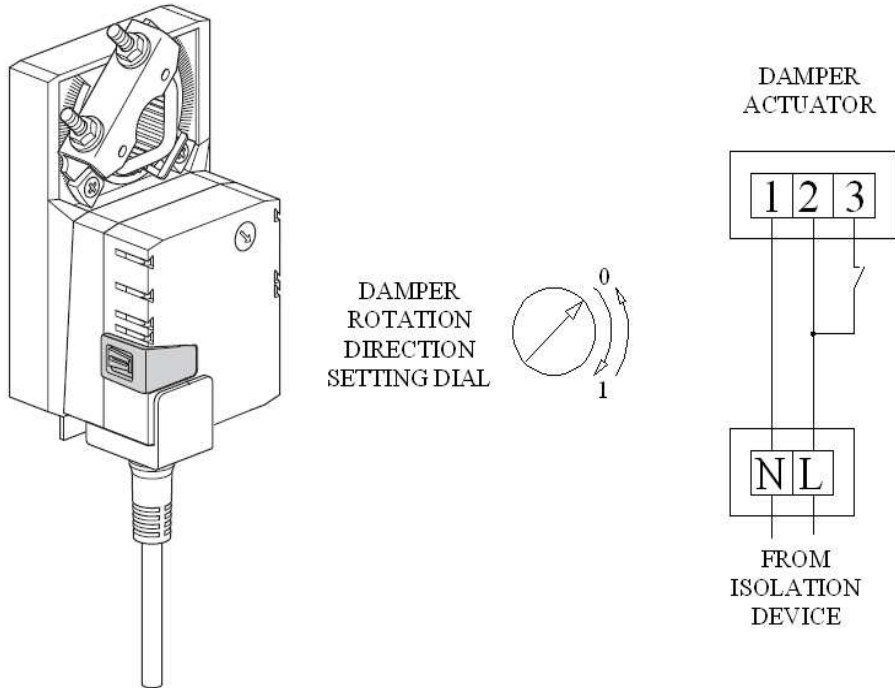
DIM H = TOTAL STATIC PRESSURE mm Wg + 25mm MINIMUM

N.B. DO NOT ALLOW TRAPS TO DRY OUT: INCLUDE ADJACENT WATER FILLING POINT.

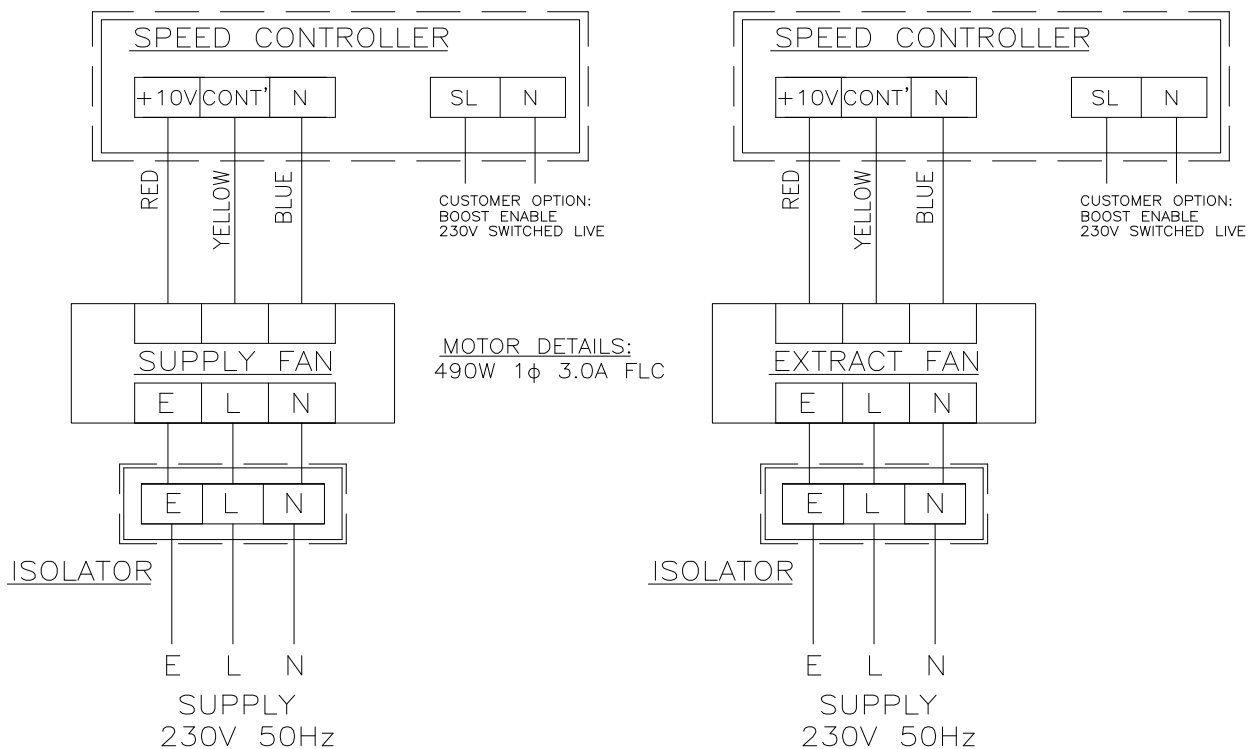


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**Damper Actuator Wiring:**



**Fan wiring:**



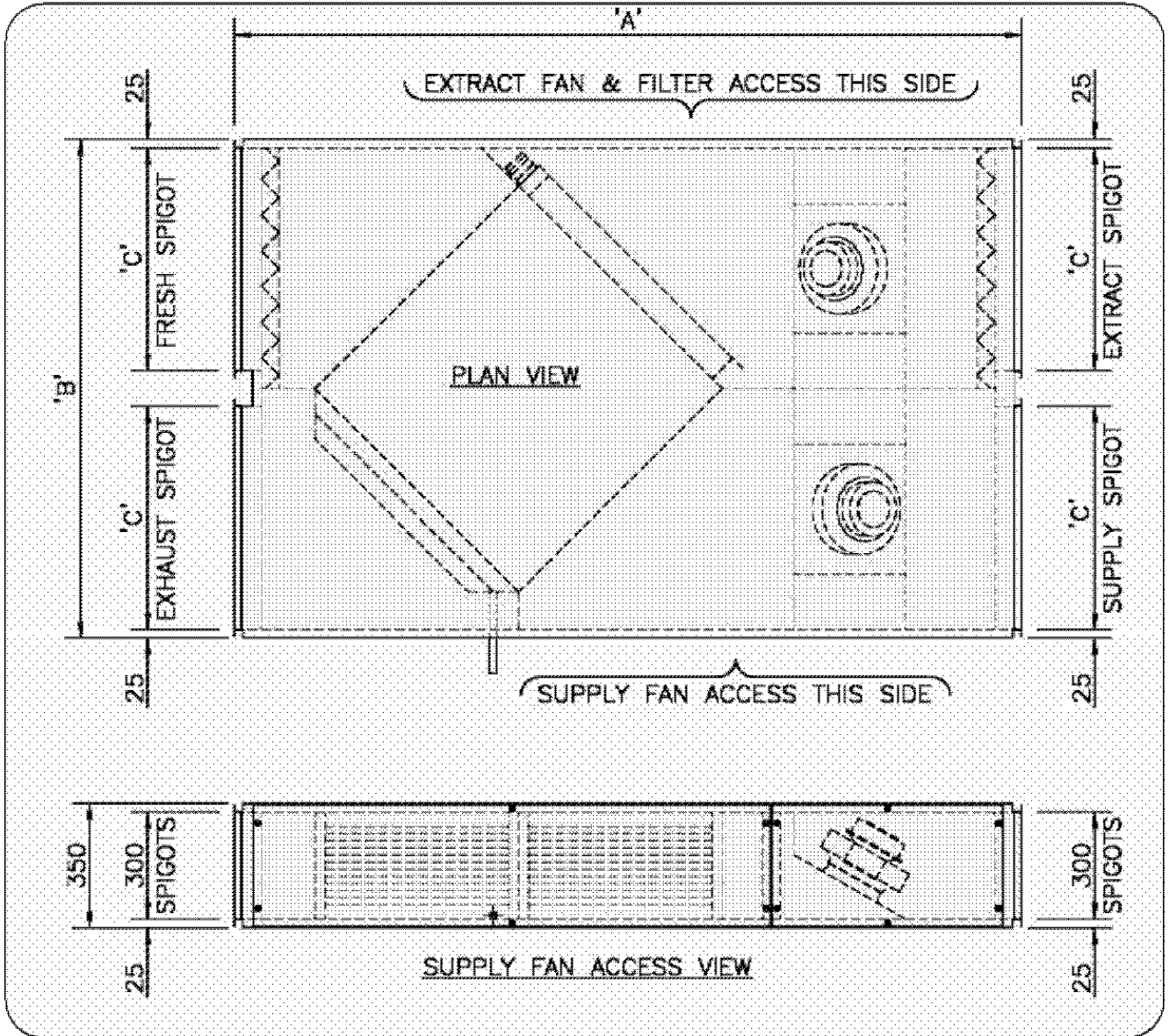


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HRP350-ECs				
Model	A	B	C	kg
HRP350-1	1700	1000	425	150
HRP350-2	2200	1400	625	250