



# **OPERATION & MAINTENANCE MANUAL**



**15/30kW Air Handler  
20/40kW Air Handler**

# 20/40kW CHILLED WATER FAN COIL MODULE

## PRINTED CIRCUIT BOARD FUNCTIONS

The machine operation is controlled by a microprocessor printed-circuit board which adjusts temperature and protection functions and controls the electromechanical parts of the machine on the base of the control board settings (carried out by the user) and of the temperature (taken by the following probes: the indoor unit one, the probe immersed in the indoor exchanger).

## FUNCTIONING MODES

The available functioning modes are:

- Cooling
- Heating
- Ventilation
- Automatic functioning mode (AUTO)
- Testing functioning mode

## OTHER CONTROLS

- Swing
- Switching on and switching off timer
- To disable the controls press the two temperature buttons simultaneously this will lockout any operations, to release the control lockout press and hold again, this function prevents misuse of the fan coil

## **THREE WAY CONTROL VALVE**

This valve is of 3 port design, the water passes through the bottom port of the valve, (valve inlet) when the set point is reached the port supplying the coil will close and the water will flow back to the (chiller or boiler) by pass mode.

If you open the 3 port valve manually by the small lever located on the motor body of the valve, it will only flow share between the coil and the return port back to the chiller or boiler, it is approximately a 50% share, therefore by opening this manually the total duty of the fan coil cannot be supplied, always control the fan coil module by the electronic control panel.

## **\*FROST PROTECTION\***

Always make sure that the fan coils are drained down during Winter months or Glycol is added to prevent the coil freezing, damage may occur if this is not adhered to.

## COOLING MODE

When set in this mode the air conditioner cools the room and at the same time reduces the humidity in the air.

The temperature can be set from 16 °C to 30 °C.

The fan coil module starts when the room temperature (which is detected by the indoor unit probe) is 1 °C higher than the set value and stops when the temperature drops 1 °C below the set value.

## INDOOR UNIT FAN SPEED

FAN "HI (high), MED (middle), LOW (low)"

- The indoor unit fan remains always active at the selected speed

FAN "AUTO"

When the AUTO function is selected, the electronic control device automatically selects the fan speed according to the difference between the set temperature and the room temperature. This function automatically increases the fan speed if a greater cooling effect is required. On the contrary, when the room temperature reaches the set temperature, the fan speed is dramatically decreased.

- When the room temperature is at least 4 °C higher than the set value, the maximum speed is activated
- When the room temperature is from 1 °C to 3 °C higher than the set value, the middle speed is activated
- In the other cases the minimum speed is activated
- When a certain speed has been selected, it does not change until the following variation of at least 1 °C (hysteresis)

Please ensure you leave the electrical supply switched on for at least 30 minutes after the unit is switched off, this is to enable the condensate water to be removed from the fan coil module, otherwise the condensate water may overflow into the base of the unit and onto the floor.

## HEATING MODE

The temperature can be set from 16 °C to 30 °C.

The fan coil module starts when the room temperature (which is detected by the indoor unit probe) drops 1 °C below the set value and stops when the temperature is 1 °C higher than the set value.

## INDOOR UNIT FAN SPEED

FAN "HI (high), MED (middle), LOW (low)"

- The indoor unit fan is activated at the selected speed

FAN "AUTO"

- When the room temperature is at least 4 °C lower than the set value, the maximum speed is activated
- When the room temperature is from 1 °C to 3 °C lower than the set value, the middle speed is activated
- In the other cases the minimum speed is activated
- When a certain speed has been selected, it does not change until the following variation of at least 1 °C (hysteresis)

## PROTECTION FOR THE INDOOR UNIT EXCHANGER

In heating mode, when the temperature of the indoor unit exchanger remains for at least 20 seconds over 58 °C, the indoor unit fan works at maximum speed automatically.

## **HOLD OFF THERMOSTAT**

A low temperature hold off thermostat is fitted to the unit, factory set to 30oC, this holds the 3 way valve closed until the water reaches the pre-set temperature this may be altered as required (increased or decreased)

## **THREE WAY VALVE OPERATION**

When in heating mode the 3 port diverting valve will remain closed for approximately 3 minutes once the fan coil is switched on after this time the valve will open and hot water will flow through to the coil, once set point is reached the valve will close and the fan will stop until the room temperature drops below the set point then the procedure re-starts.





ALL SEASONS  
**HIRE**

**0800 082 8001**  
COOLING & HEATING HIRE SPECIALIST

All Seasons Hire Ltd.  
Unit 4, Harewood Farm  
London Road, Andover Down  
Andover, Hampshire  
SP11 6LJ

Tel: +44 (0) 1264 387370 Fax: +44 (0) 1264 358478  
info@allseasonshire.com