

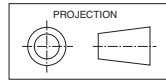
# IMD 420, 550

## Ducted Fan Coil Units

## Installation & Maintenance

### Dimensions (mm)

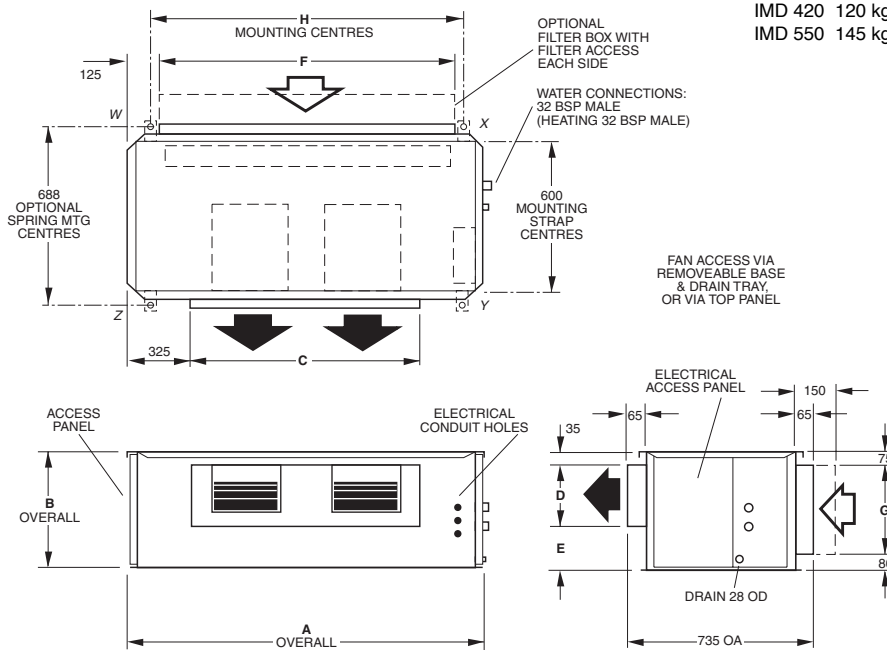
Not to Scale



MODEL	CORNER LOADS (kg)			
	W	X	Y	Z
IMD 420	29	35	31	25
IMD 550	37	41	32	35

**Net Weight**  
(excluding water)  
IMD 420 120 kg  
IMD 550 145 kg

Fig. 1



MODEL	A	B	C	D	E	F	G	H
IMD 420	1625	575	975	300	240	1375	425	1518
IMD 550	1680	700	1030	310	355	1430	555	1573

**Note:** The manufacturer reserves the right to change specifications at any time without notice or obligation. Certified dimensions available on request.

### GENERAL

The IMD ducted fan coil units must be installed in accordance with all national and local safety codes.

### Options

1. Filter Box
2. Spring Mounting Kit
3. Electric Elements c/w fan run-on timer
4. Flexible water hoses

### FILTER BOX (Option)

The Filter Box is installed by unscrewing the return air spigot and replacing it with the Filter Box's filter-integrated spigot. The filter may be accessed from either side of this spigot. This new spigot has a depth of 150 mm, instead of 65 mm.

### ELECTRIC HEAT (Factory Fitted Option)

Refer to wiring diagram for size of elements supplied. A fan run-on timer for rapid heat dissipation is included with this option. A 24 hour power supply is essential for this timer to function correctly.

### INSTALLATION

#### Positioning & Mounting

Provide 500 mm minimum clearance to both ends of the unit. If the filter box option is to be used, allow adequate clearance for the filter to be withdrawn to its full length.

If low noise is a critical factor in the installation, refer to Figure 5 for noise isolation recommendations.

It is recommended that the unit be mounted using the spring mounting system, supplied as an optional extra (Fig.2). This system minimises transfer of vibration into the building structure.

If a more rigid installation can be tolerated, then suspend the unit using the four straps supplied, as shown in Figure 3.

Alternatively, holes are supplied in the mounting flange for the use of threaded mounting rods (not supplied).

The unit has a built-in sloping drain tray, therefore mount it level.

### Condensate Drain

The condensate drain should be trapped outside the unit cabinet. The trap should have a vertical height of at least 50 mm. The drain should have a slope of at least 1 in 50 and must not be piped to a level above the unit drain tray. (Refer Fig.4). Use flexible tube to connect the unit's drain stub to the external drain pipe.

For long condensate pipe runs, fit a vent pipe near the drain trap. The top of the vent pipe must be at least 100 mm above the IMD unit's drain tray.

Fig. 2 Spring Mounting

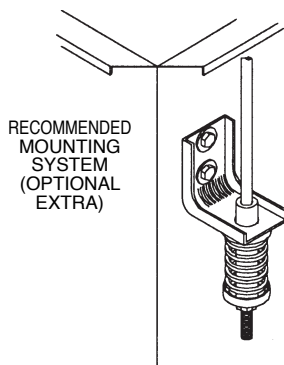
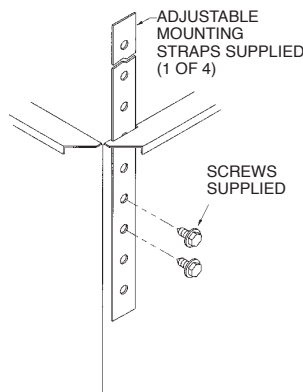


Fig. 3 Strap Mounting



It is essential that the drainage system is checked by pouring water in the drain tray and seeing that it discharges at the end of the drain and does not overflow the drain tray.

**Note:** The built-in drain tray can be removed for cleaning (or fan access) by first removing the unit's base.

### ELECTRICAL WIRING

Electrical work must be carried out by a qualified electrician in accordance with local supply authority regulations and the wiring diagram.

The electrical supply required is: 1 phase 220-240 V a.c. 50 Hz with neutral and earth.

Wire the unit directly from the Electrical Distribution Board. The unit should have its own dedicated circuit breaker on the distribution board and an isolator switch should be installed in accordance with the applicable wiring regulations. Recommended circuit breaker size is 16A.

### UNITS WITH ELECTRIC HEAT

If electric elements have been included (factory fitted), the electrical supply required is: 3 phase 380-440 V a.c. 50 Hz with neutral and earth. A 24 hour power supply is required to power the fan run-on timer. Recommended circuit breaker size for a unit factory fitted with electric elements is as follows:

IMD 420	50 A/ph.
IMD 550	63 A/ph.

This electric heat kit includes both auto (90°C) and manual (120°C) high temp. safety thermostats. If the manual high temp. safety t/stat requires resetting and the auto high temp. safety t/stat does not reset, then the latter needs to be replaced.

### FAN SPEED

The fan speed can be set to LOW, MED, or HIGH - whichever best suits the application.

### COMMISSIONING

1. Check that the thermostat is correctly wired and set at the desired temperature.
2. Check that the air filter (if fitted) is clean.
3. Check that the fan runs freely without vibration.
4. Check condensate drain for free drainage.

### MAINTENANCE

#### Weekly For First Four Weeks

1. Check air filter (if fitted); vacuum clean as necessary.
2. Check condensate drain for free drainage.

#### Monthly

Check air filter (if fitted); vacuum clean as necessary.

### Six Monthly

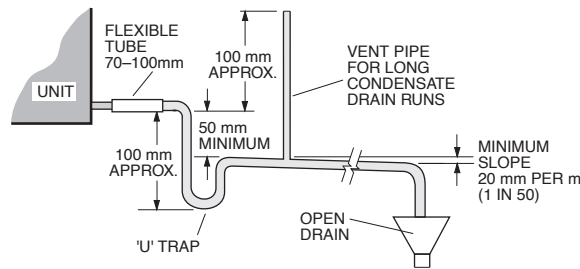
1. Check condensate drain for free drainage.
2. Check heat exchanger coil; vacuum or brush clean as necessary.
3. Check the tightness of the fan.
4. Check that fan motor is free running.
5. Check tightness of electrical connections.
6. Check air supply at diffuser outlets.

### NOTE

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This pamphlet replaces the previous issue no. 3429 dated 10/22. Wiring revision G, Fig.4.

Fig. 4

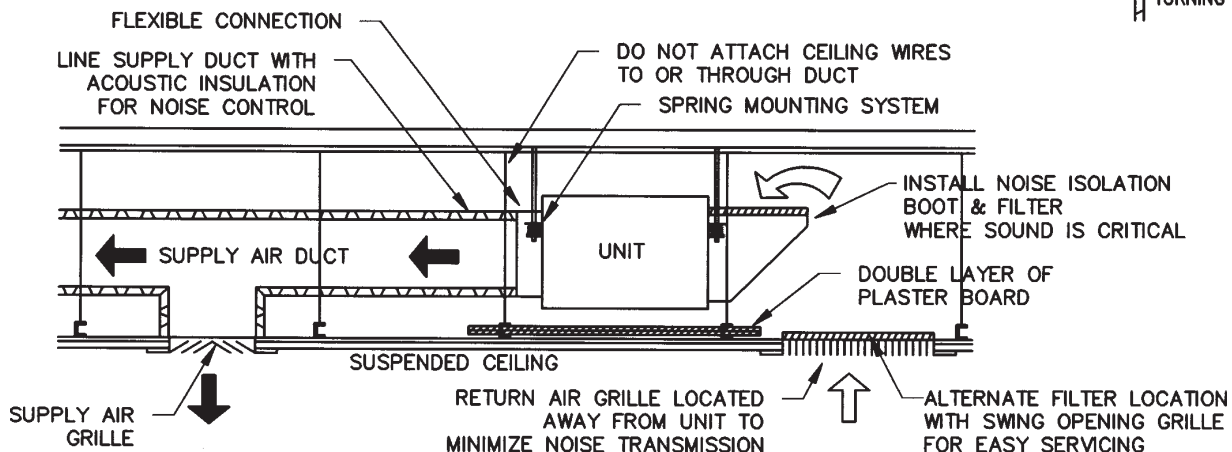
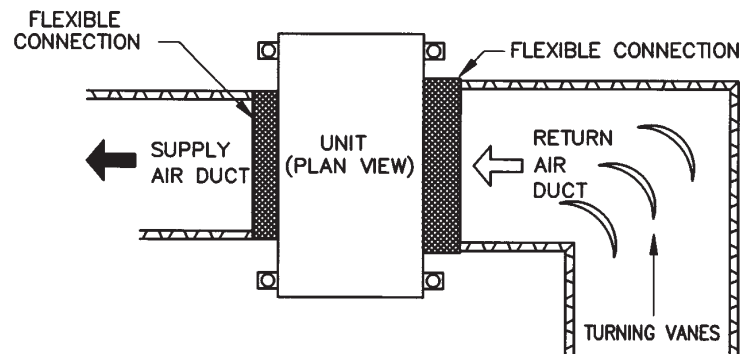


Condensate Drain

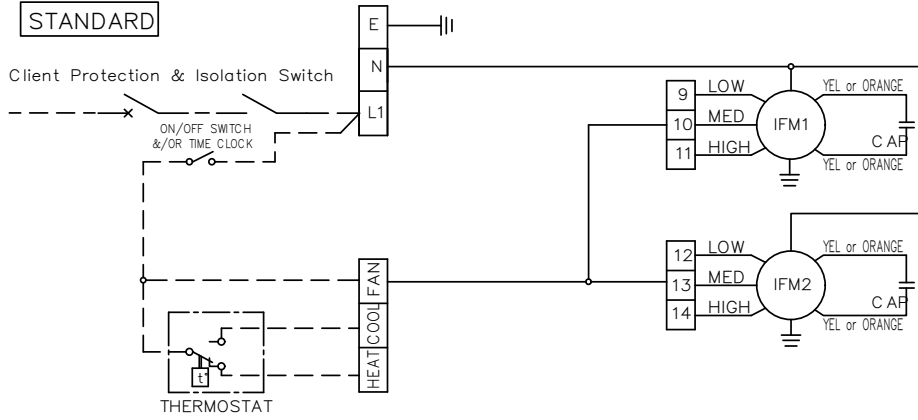
## Fig. 5 Application Considerations

### Recommendations for Noise Isolation - particularly for high static installations:

1. Avoid installing units, with non-ducted return air, directly above spaces where noise is critical.
2. Use flexible connections between unit and rigid ducting.
3. Use generously sized acoustically lined ducts.
4. If generous duct size is not possible, use turning vanes on bends to reduce air turbulence (regenerated noise).
5. Use 90° bends in ducting to significantly assist in noise reduction.

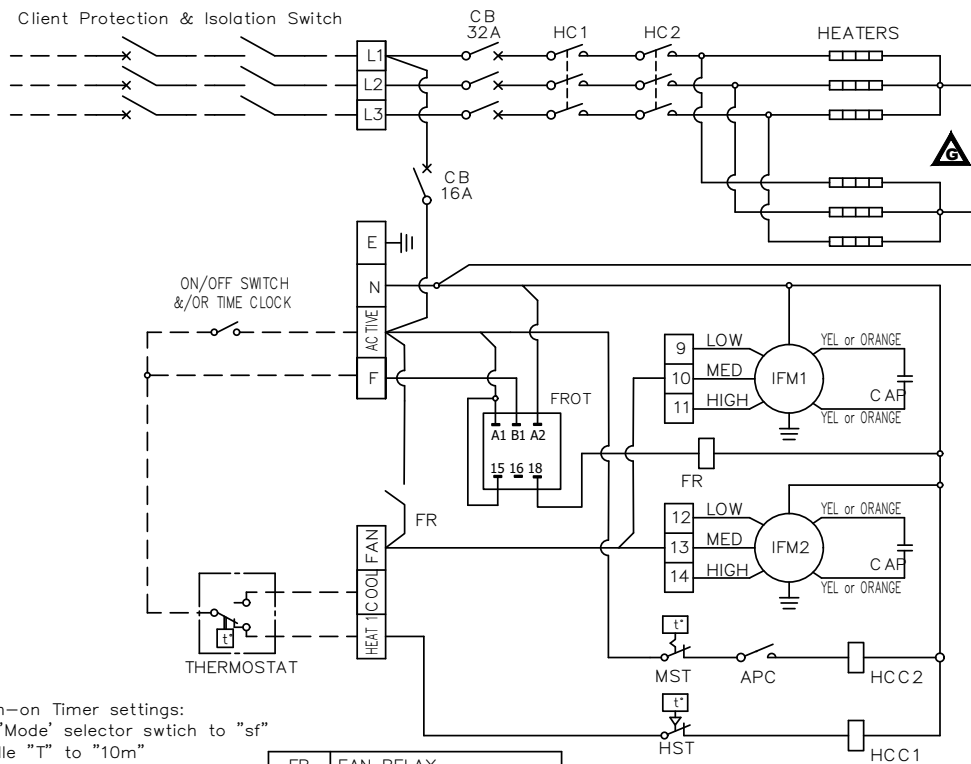


**STANDARD**



**WITH ELECTRIC HEAT**

**IMPORTANT: 24 HOUR POWER SUPPLY IS ESSENTIAL FOR FAN RUN ON TIMER TO WORK**



Fan Run-on Timer settings:  
 Set top 'Mode' selector switch to "sf"  
 Set middle "T" to "10m"  
 Set bottom "t" selector to ".3"

MODEL -	IMD	420	550	FR	FAN RELAY
INDOOR	HIGH	5.0x2	5.0x2	APC	AIR PRESSURE CONTROL
FAN MOTOR	MED	3.0x2	3.5x2	CB	CIRCUIT BRAKER
RUNNING AMPS	LOW	2.5x2	2.9x2	FROT	FAN RUN ON TIMER SET 3 mins.
				HC	HEATER CONTACTOR
				HCC	HEATER CONTACTOR COIL
ELECTRICAL	IMD 420	IMD 550		HST	AUTO HIGH TEMP. T/STAT
HEATING	3 x 4kW	6 x 3kW		IFM	INDOOR FAN MOTOR
3φ				MST	MANUAL HIGH TEMP. T/STAT

SWITCHING ON, INCORRECT CONNECTION WILL DAMAGE MOTORS. CLIENT WIRING Double insulated multi-core cable.

Title **IMD 420/550 WIRING SCHEMATIC**



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