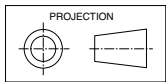


ISD 250Q, 300Q – 470Q

Ducted Split System Indoor Units

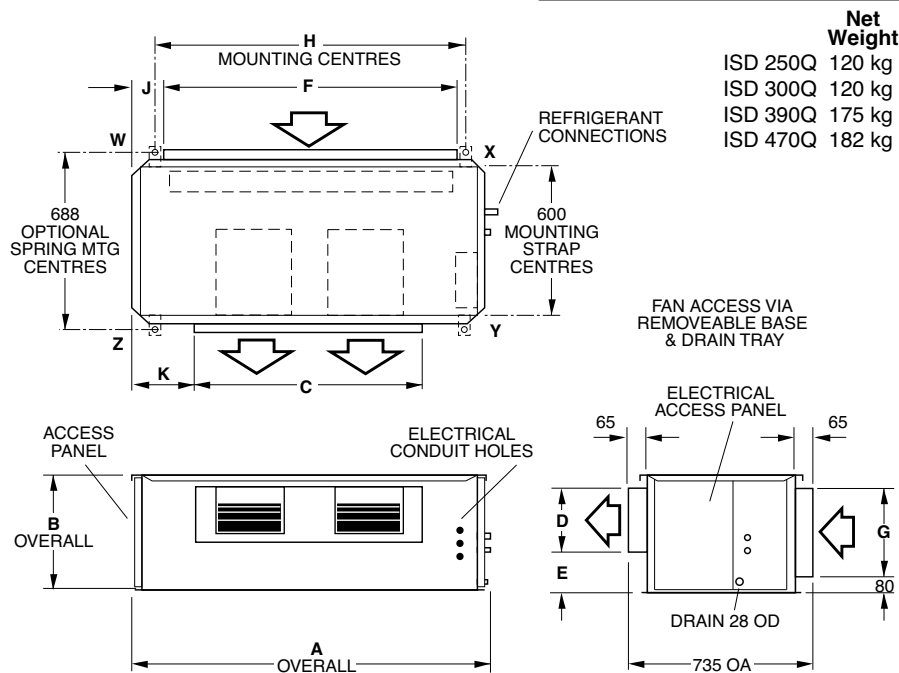
Installation & Maintenance

Fig.1 Dimensions (mm)



Not to Scale

MODEL	CORNER LOADS (kg)			
	W	X	Y	Z
ISD 250Q	29	35	31	25
ISD 300Q	29	35	31	25
ISD 390Q	37	41	32	35
ISD 470Q	41	50	50	41



	Net Weight
ISD 250Q	120 kg
ISD 300Q	120 kg
ISD 390Q	175 kg
ISD 470Q	182 kg

MODEL	A	B	C	D	E	F	G	H	J	K
ISD 250Q	1625	575	975	300	240	1375	425	1518	125	325
ISD 300Q	1625	575	975	300	240	1375	425	1518	125	325
ISD 390Q	1680	700	1030	310	365	1430	555	1573	125	325
ISD 470Q	2060	700	1525	310	299	1705	555	1915	170	165

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

GENERAL

These ISD indoor units are designed to be coupled with their respective OSA outdoor units. Units must be installed in accordance with all national and local safety codes.

Combinations

One ISD 250Q with one OSA 240RA
 One ISD 250Q with one OSA 250
 One ISD 300Q with one OSA 290RA
 One ISD 300Q with one OSA 300
 One ISD 390Q with one OSA 390
 One ISD 390Q with one OSA 410RA
 One ISD 470Q with one OSA 480

Options

1. Filter Box.
2. Spring Mounting Kit
3. Electric Heat Kit.

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.

ISD c/w ELECTRIC HEAT OPTION (Factory Fitted)

Units supplied with electric boost heat are designed to conform to AS/NZS 3350.2.40 1997.

ISD 250Q–390Q: 3 x 3 kW elements
 ISD 470Q: 3 x 4 kW elements

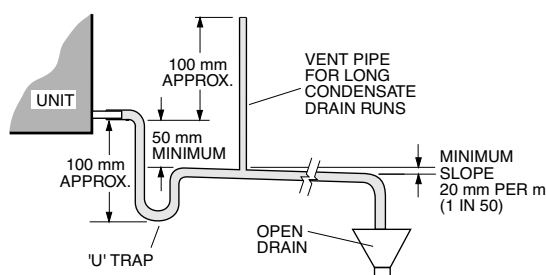
Note: Reverse Cycle systems fitted with electric heat require an Outdoor Unit low limit t/stat (supplied separately).

UNPACKING UNITS

In an area adjacent to the installation site remove from the ISD unit from its carton and examine it carefully for any damage which may have occurred in transit. Record any damage on the carrier's delivery documents and refer the matter immediately to the manufacturer's nearest Sales Office.

Fig. 2

Condensate Drain



INSTALLATION

Positioning & Mounting

Provide 500 mm minimum clearance to the electrical panel. If the filter box option is to be used, allow adequate clearance for the two half length filters to be withdrawn from either side of the unit.

If low noise is a critical factor in the installation, refer to Figure 6 for noise isolation recommendations.

It is recommended that the unit be mounted using the spring mounting system, supplied as an optional extra (Fig.3). 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 mounting straps supplied, as shown in Figure 4.

Alternatively, the unit can be mounted on a suitable platform using vibration isolators.

The unit must be installed with the drain tray tilted about 10 mm along its length so that the drain connection is at the lowest point.

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.2).

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 ISD unit's drain tray.

It is essential that the drainage system for the evaporator 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.

INDOOR-OUTDOOR UNIT CONNECTIONS

Refer to the relevant OSA Outdoor Unit 'Installation & Maintenance' pamphlet for piping instructions. For wiring connections, refer to the Outdoor Unit wiring diagram in conjunction with the ISD wiring diagram on this pamphlet.

REFRIGERATION PIPING

Pipe Connection Sizes & Type

ISD 250Q – 390Q :

Liquid : 16 mm OD ($\frac{5}{8}$ ") sweat

Suction : 28 mm OD ($1\frac{1}{8}$ ") sweat

ISD 470Q :

Liquid : 19 mm OD ($\frac{3}{4}$ ") sweat

Suction : 35 mm OD ($1\frac{3}{8}$ ") sweat

The ISD is shipped from the factory with a pressurised holding charge of nitrogen. Immediately before removing any brazed pipe connection's seal, reduce holding charge to atmospheric pressure using the Schraeder valve provided on the suction line.

Warning: Failure to do so may cause injury.

Allow a minimum of 400 mm straight pipework directly out from where the pipes exit the unit (Fig.4). This will permit easier access for future servicing.

Refer to the Outdoor Unit 'Installation & Maintenance' pamphlet for evacuation procedure and piping requirements.

ELECTRICAL WIRING

The electrical supply required (via the Outdoor Unit) is specified on the Outdoor Unit's wiring diagram.

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

In a free blow or low resistance application, beware of exceeding the fan motor's full load amp limit (refer Outdoor Unit's wiring diagram).

Reverse Cycle Systems Only – To make the indoor fan switch off during de-ice cycle, refer to the Outdoor Unit wiring diagram for the appropriate changes.

ISD/OSA Systems with Electric Heat

Replace the systems external fuse with the size recommended in the table below and mark the change on the Outdoor Unit's wiring diagram.

Outdoor Unit	Replacement Fuse Size
OSA 250	40 A
OSA 260 A	40 A
OSA 290 A	50 A
OSA 300	50 A
OSA 390	60 A
OSA 410 A	60 A
OSA 480	80 A

INDOOR FAN SPEED

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

COOLING OPERATION

An Outdoor Unit HP Fan Speed Controller, available from **temperzone**, is recommended where indoor cooling is required at ambient conditions below 20°C.

COMMISSIONING

Indoor Unit

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

Indoor Unit with Electric Heat

Test the air safety switch by running the fan on its lowest speed and checking for electrical heating. Remove power to the fans and the electric elements should cut-out.

This pamphlet replaces the previous issue no. 2231 dated 06/03. Fig.1 Dim. 470.

OPERATION

Units installed with electric heat kits 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.

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

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

WARNING

This unit is designed for use ONLY with the refrigerant HCFC-22. The use of other refrigerants is NOT authorised or approved by the manufacturer and may cause operational problems such as poor performance and efficiency, loss of capacity, degradation of materials and refrigerant leaks.

The use of flammable or explosive materials as a refrigerant creates the additional risks of fire and explosion which may result in property damage, personal injury or death.

Fig. 3 Spring Mounting

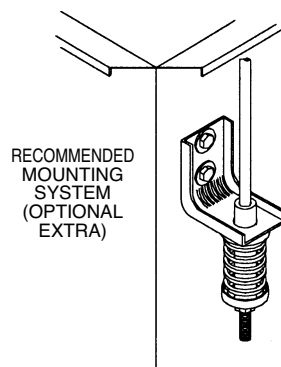


Fig. 4 Strap Mounting

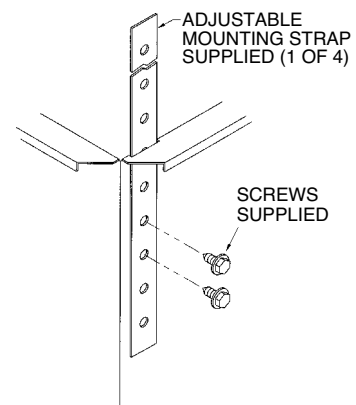


Fig. 5

Pipework Connection

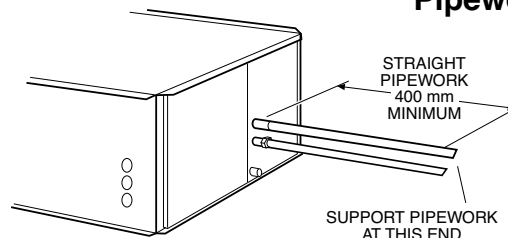
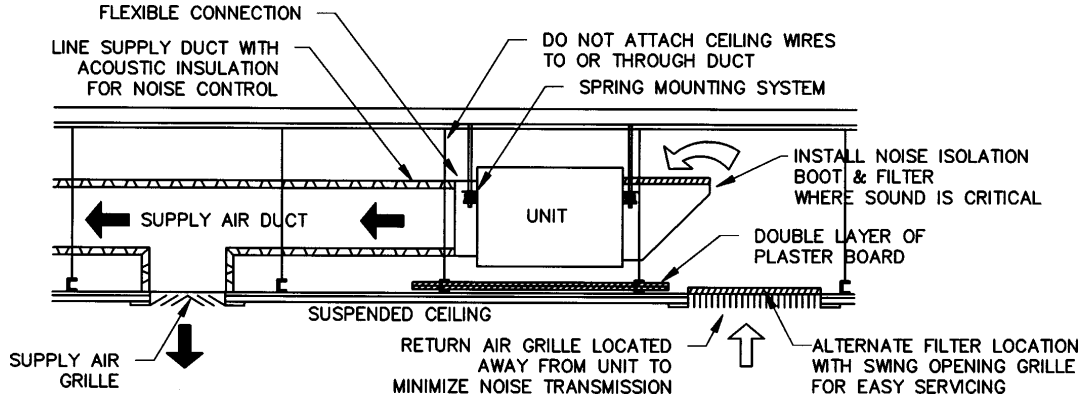
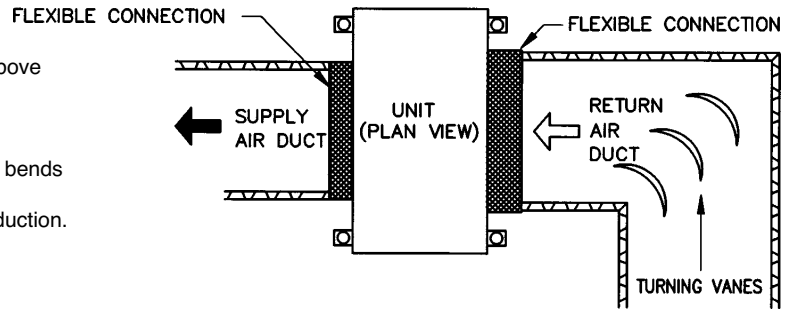


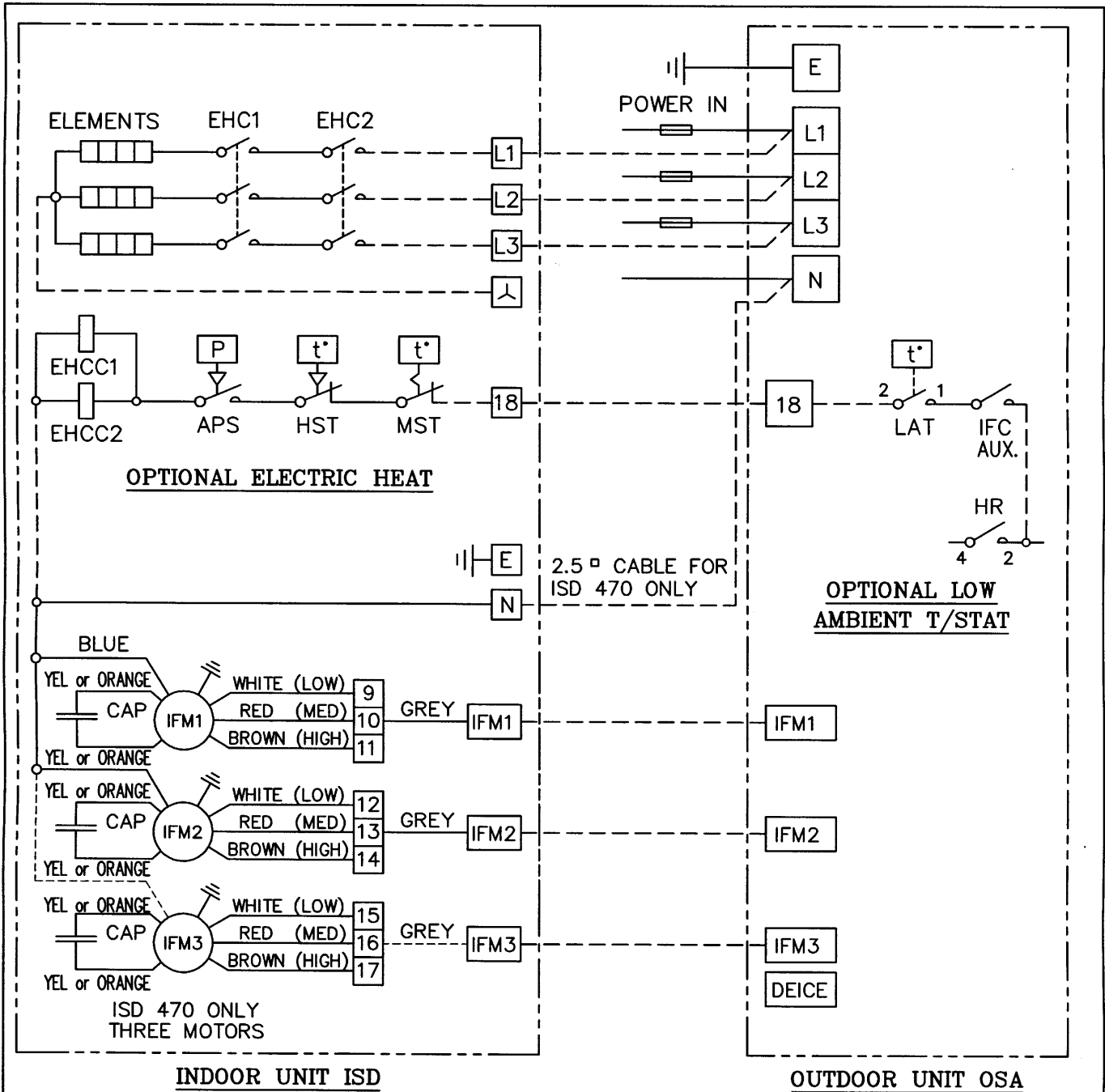
Fig. 5 Application Considerations

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.





APS	AIR PRESSURE SWITCH	IFC	INDOOR FAN CONTACTOR AUX.
EHC	ELECTRIC HEAT CONTACTOR	IFM	INDOOR FAN MOTOR
EHCC	ELECTRIC HEAT CONTACTOR COIL	LAT	LOW AMBIENT T/STAT
HR	HEATING RELAY	MST	MANUAL HIGH TEMP. T/STAT
HST	AUTO HIGH TEMP. T/STAT		

MODEL	ISD	250	300	390	470	ISD 250/300/390/470 WIRING SCHEMATIC			
INDOOR FAN MOTOR RUNNING AMPS	HIGH	3.9 x2	5.0 x2	5.0 x2	5.0 x3				
	MED	2.5 x2	3.0 x2	3.5 x2	3.5 x3				
	LOW	2.0 x2	2.5 x2	2.9 x2	2.9 x3				
CAPACITOR	MFD	15 x2	18 x2	22.5 x2	22.5 x3	 ©temperzone ltd 2001			
ELECTRIC HEAT OPTION	total kW A/Ph	9 13.4	9 13.4	9 13.4	12 17.4				
NOTE: CHECK WIRING BEFORE SWITCHING ON, INCORRECT CONNECTION WILL DAMAGE MOTORS.		CLIENT WIRING Interconnections between units by client. Double insulated multi-core cable.				Drawn D.J.H.	Date 01-09-00 RE 05	Drawing No. 325-434-002	Revision C