

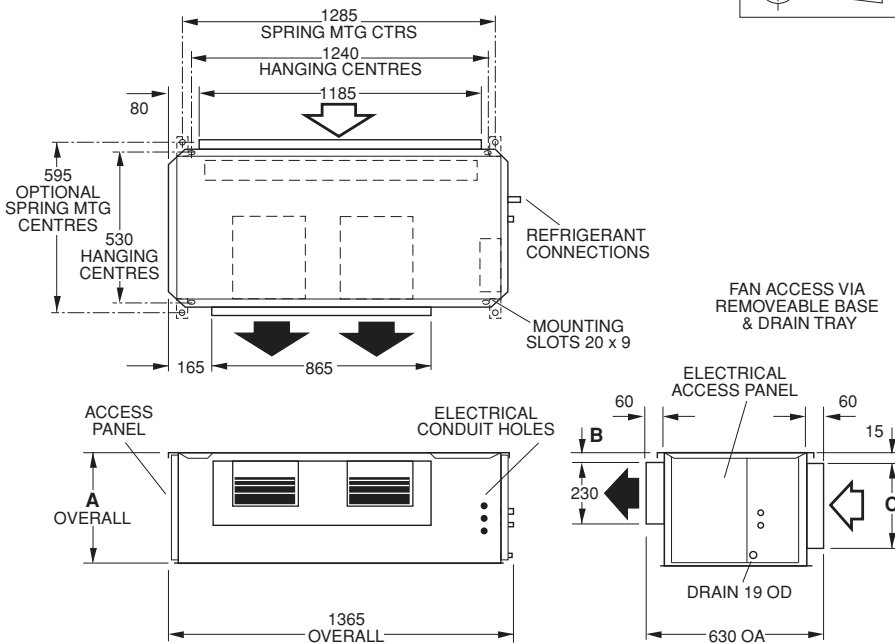
# ISD 220Q, 265Q

## Ducted Split System Indoor Units

## Installation & Maintenance

**Fig. 1 Dimensions (mm)**

Not to Scale



**ISD 220Q, 265Q**

**GENERAL**

The ISD 220Q indoor units are designed to be coupled with the OSA 220 outdoor units. The ISD 265Q indoor units are designed to be coupled with the OSA 265 outdoor units. Units must be installed in accordance with all national and local safety codes.

**Options**

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

**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 135 mm, instead of 60 mm.

**ELECTRIC HEATER BOX (Option)**

The Electric Heater Box is installed by unscrewing the supply air spigot and replacing it with the Electric Heater Box's element-integrated spigot. This new spigot has a depth of 195 mm, instead of 60 mm. A separate page of installation instructions is supplied with the Kit.

MODEL	A	B	C	Net Weight
ISD 220Q	425	15	350	74 kg
ISD 265Q	555	85	500	93 kg

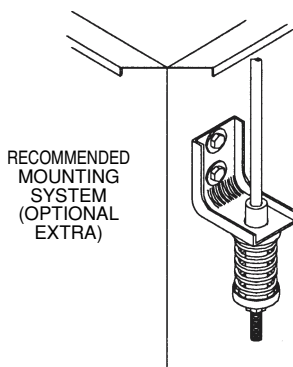
**NOTE**

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

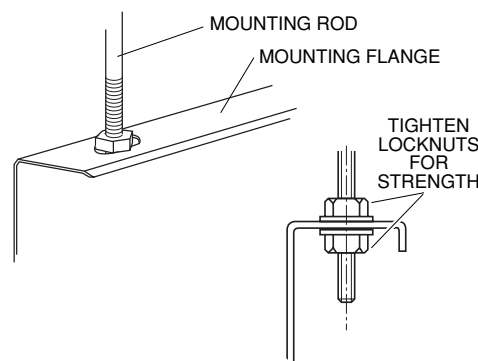
**UNPACKING UNITS**

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 Spring Mounting**



**Fig. 3 Solid Mounting**



**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 the Electric Heat Kit option is to be used, allow adequate clearance for servicing.

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.2). This system minimises transfer of vibration into the building structure.

If a more rigid installation can be tolerated, then suspend the unit from four threaded rods (not supplied) and use locknuts (not supplied), as shown in Figure 3.

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.

When finally positioned, tighten the lock nuts on the mounting rods from above and below the mounting flange to give a firm installation (see Fig. 3).

### 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).

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

Liquid : 13 mm OD (1/2") flare

Suction : 28 mm OD (1 1/8") 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 by loosening flare nut pipe connection.

**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.5). This is 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).

It is recommended electricians run two spare wires between Outdoor Unit and Indoor Unit in case one or both of the following options becomes a requirement.

**Note:** Leave the wires unconnected until required.

*Option 1. Indoor Fan Off During De-Ice (Reverse Cycle Systems only)*

Connect one of the spare wires mentioned above and remove the loop wire from terminal 'N' to terminal '1'.

*Option 2. Electric Boost Heat.*

Connect one of the spare wires mentioned above from Indoor Unit terminal '18' to Outdoor Unit terminal '18'.

### INDOOR FAN SPEED

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

If the air returning to the indoor unit is regularly expected to be above 50%RH, then the coil face velocity should be limited to be 2.5 m/s or less (refer Air Handling graph in Technical Data pamphlet).

High humidity levels can occur in tropical or subtropical conditions, and/or when heavily moisture laden fresh air is introduced. Select a fan speed that avoids water carry-over problems.

### THERMOSTATS

For options, refer to the **temperzone** pamphlet 'ISD 73Q-300Q - Approved Thermostats' Data Sheet. A dedicated neutral line is required where electronic or anticipator thermostats are used when you choose to have indoor fan off in de-ice.

### COOLING OPERATION

An Outdoor Unit HP Fan Speed Controller (4 amp), 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 the 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.

### 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

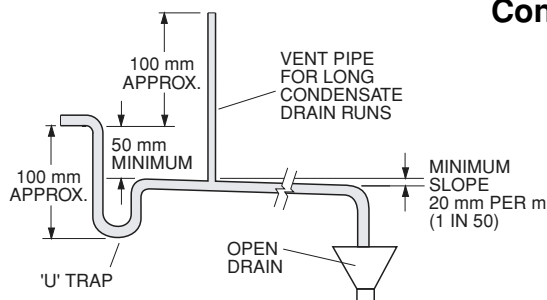
1. Check condensate drain for free drainage.
2. Check heat exchanger coil; vacuum or brush clean as necessary.
3. Check the tightness of the fan.
4. Check that fan motor is free running.
5. Check tightness of electrical connections.
6. Check air supply at diffuser outlets.

### 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.

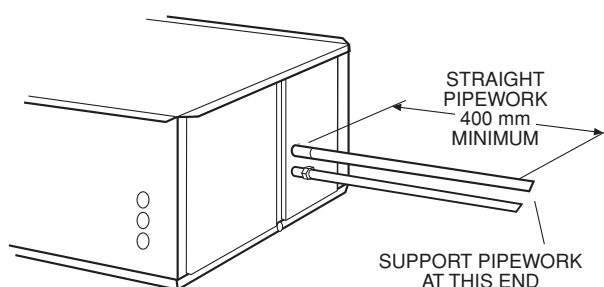
**The use of flammable or explosive materials as a refrigerant creates the additional risks of fire and explosion which may result in property damage, personal injury or death.**

Fig. 4



Condensate Drain

Fig. 5

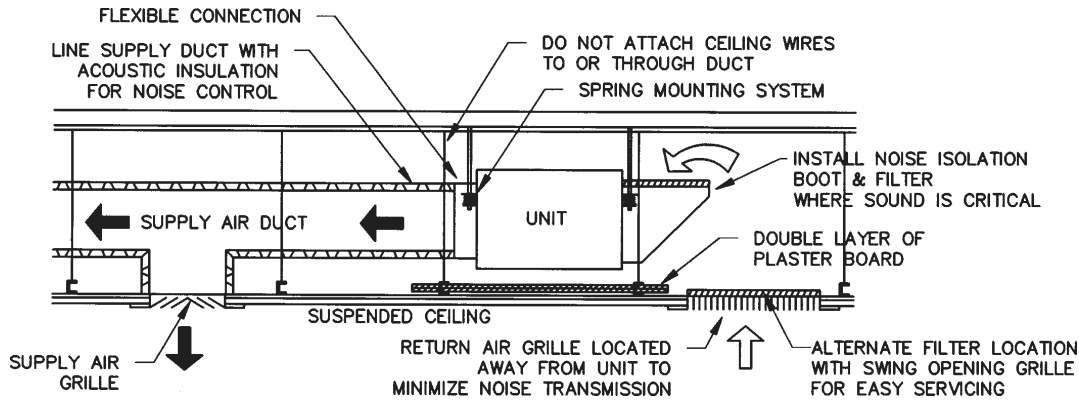
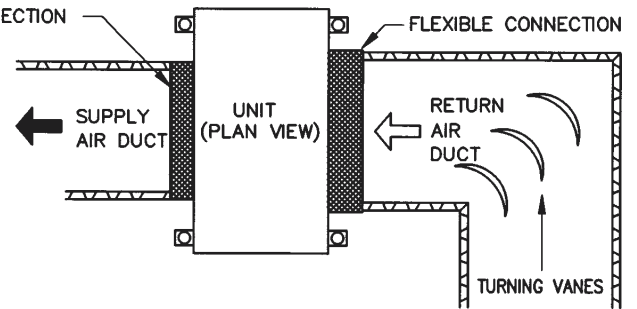


Pipework Connection

**Fig. 6 Application Considerations**

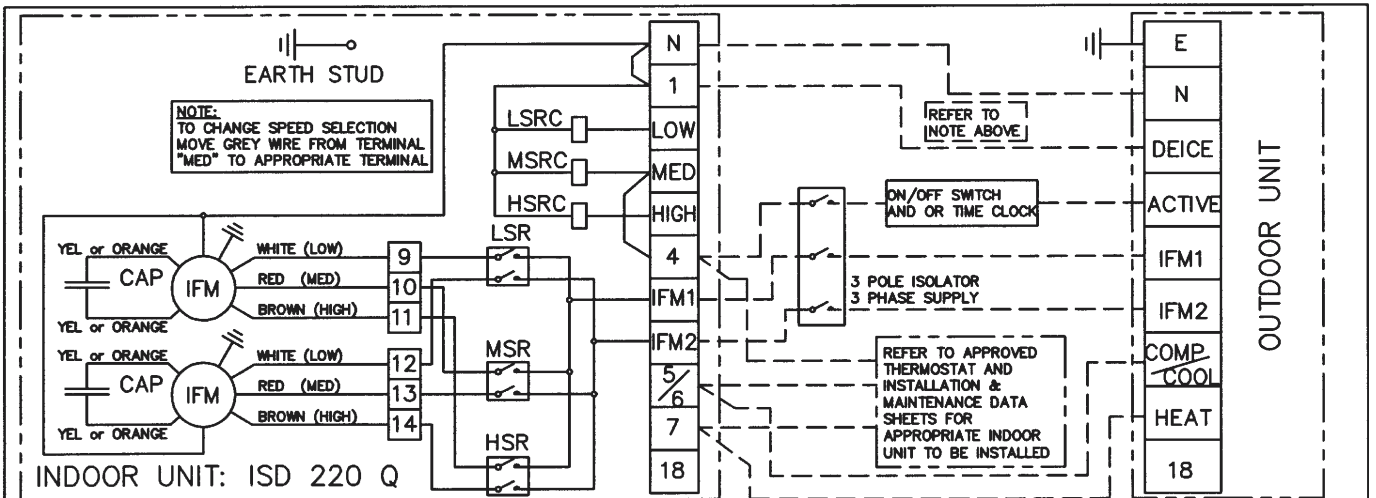
**Recommendations for Noise Isolation**  
**- particularly for high static installations:**

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.



**Wiring**

**ISD 220Q**



MODEL -	ISD	220	CAP	CAPACITOR
INDOOR FAN MOTOR RUNNING AMPS	HIGH	3.3 x2	HSR	HIGH SPEED RELAY
	MED	3.0 x2	HSRC	HIGH SPEED RELAY COIL
	LOW	2.25 x2	IFM	INDOOR FAN MOTOR
			LSR	LOW SPEED RELAY
			LSRC	LOW SPEED RELAY COIL
			MSR	MED SPEED RELAY
			MSRC	MED SPEED RELAY COIL

**ISD 220 Q WIRING SCHEMATIC**

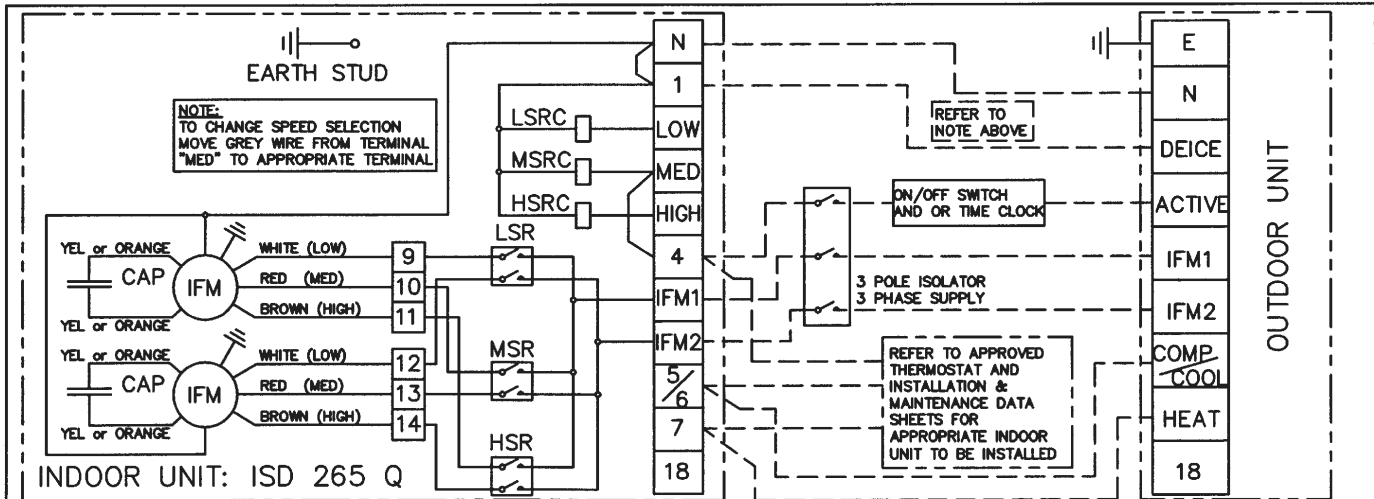
©temperzone ltd 1999

NOTE: SWITCHING ON, INCORRECT CONNECTION WILL DAMAGE MOTORS.	CLIENT WIRING Interconnections between units by client. Double insulated multi-core cable.	Drawn	Date 19-08-99	Drawing No.	Revision
		J.S.L	KEOJ	011-912-001	B

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


# Wiring

ISD 265Q



MODEL -	ISD	265	CAP	CAPACITOR
INDOOR FAN MOTOR	HIGH	4.1 x 2	HSR	HIGH SPEED RELAY
RUNNING AMPS	MED	3.4 x 2	HSRC	HIGH SPEED RELAY COIL
	LOW	1.4 x 2	IFM	INDOOR FAN MOTOR
CAPACITOR	: 15 mfd x 2		LSR	LOW SPEED RELAY
			LSRC	LOW SPEED RELAY COIL
			MSR	MED SPEED RELAY
			MSRC	MED SPEED RELAY COIL

ISD 265 Q  
WIRING SCHEMATIC



©temperzone ltd 2001

**NOTE:**  
SWITCHING ON, INCORRECT CONNECTION WILL DAMAGE MOTORS.

**CLIENT WIRING**  
Interconnections between units by client. Double insulated multi-core cable.

Drawn	Date	19-09-02	Drawing No.	Revision
D.W.H	ADG	325-454-002	A	

This pamphlet replaces the previous issue no. 2165 dated 11/02. ISD 220Q wgt, wiring revisions B & A.