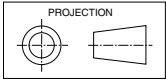


ISD 83K, 96K, 110K

Ducted Split System Indoor Units

Installation & Maintenance

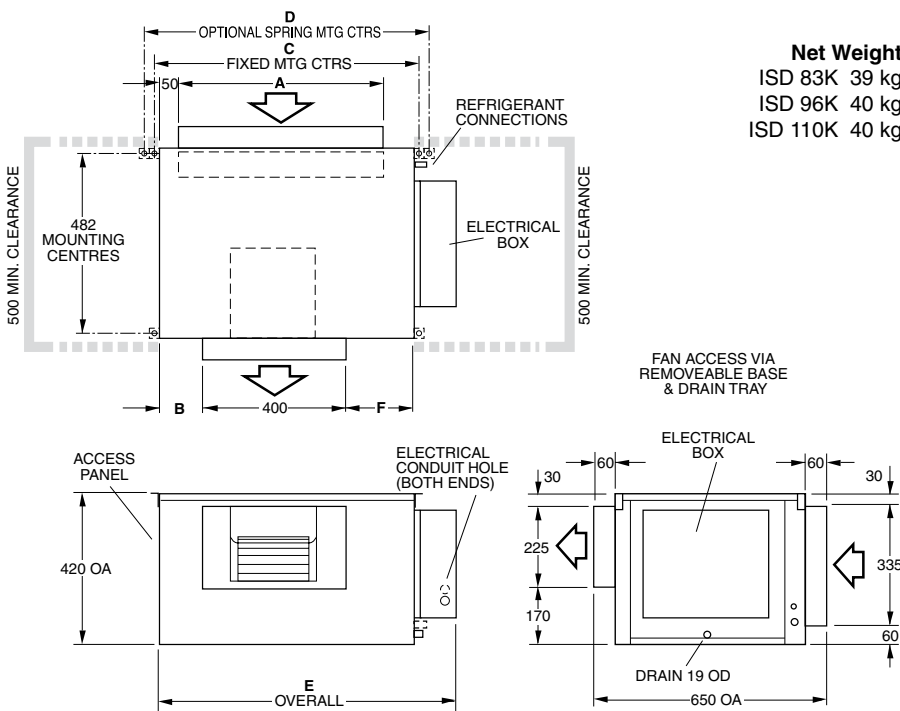
Fig. 1 Dimensions (mm)



Not to Scale

ISD 83K, 95K, 96K, 110K

MODEL	A	B	C	D	E	F
ISD 83K	660	175	836	895	925	230
ISD 96/110K	787	240	962	1020	1050	290



Net Weight
 ISD 83K 39 kg
 ISD 96K 40 kg
 ISD 110K 40 kg

GENERAL

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

Combinations

- One ISD 83K with one OSA 83RKSH
- One ISD 96K with one OSA 95RKSH
- One ISD 110K with one OSA 110RKSH
- One ISD 110K with one OSA 110RKTH

Options

- Filter Box c/w polypropylene net filter
- Spring Mounting Kit
- Electric Heater Box
- Supply & Return Air Plenums.

AIR FILTRATION / FILTER BOX (Option)

As air filtration requirements vary, filters are not supplied with the unit. Filters should ideally be installed on the return air side of the unit, no closer than 500mm from the back of the unit and easily accessible for cleaning. To maximise the efficiency of air flow, the return air filter should be twice the area of the ISD unit's return air spigot/s. If efficiency is less of a concern a Filter Box is available.

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 Heat 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.

Fig. 2 Spring Mounting

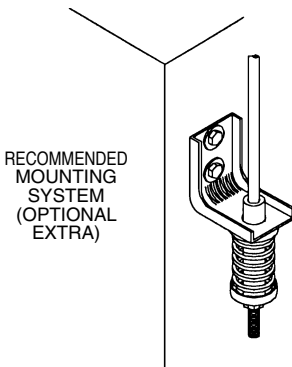
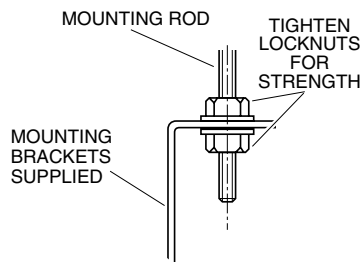


Fig. 3 Solid Mounting



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 the Electric Heater Box or Filter Box options are to be used, allow adequate clearance for servicing.

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 from four threaded rods (not supplied) attached to the ceiling. Four 'L' shaped brackets are supplied on the unit to facilitate this method. These brackets must first be unscrewed, reversed and resecured to enable rod attachment.

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

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.

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

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

Model	Liquid	Suction
ISD 83K	10 (3/8") sweat	16 (5/8") sweat
ISD 96K	10 (3/8") sweat	19 (3/4") sweat
ISD 110K	10 (3/8") sweat	19 (3/4") 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 the holding charge to atmospheric pressure.

Warning: Failure to do so may cause injury.

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 a spare wire between Outdoor Unit and Indoor Unit in case 'Indoor Fan Off During De-Ice' becomes a requirement. Leave this spare wire unconnected until required. If and when this option is required, the loop wire must be removed between terminals 'N' and '1'.

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

A dedicated neutral line is required where electronic or anticipator thermostats are used when you choose to have indoor fan off in de-ice.

ISD/OSA SYSTEMS WITH ELECTRIC HEATER BOX

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

Note: Tandem indoor units with electric heat may require greater fuse sizes on the power supply.

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-410A (R410A). 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.

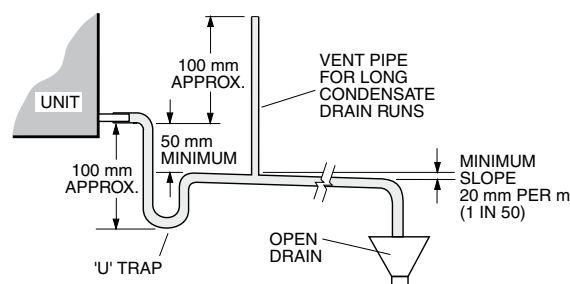
The use of flammable or explosive materials as a refrigerant creates the additional risks of fire and explosion which may result in property damage, personal injury or death.

NOTE

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

This pamphlet replaces the previous issue no. 3291 dated 01/10. ISD 80K & 95K removed.

Fig. 4

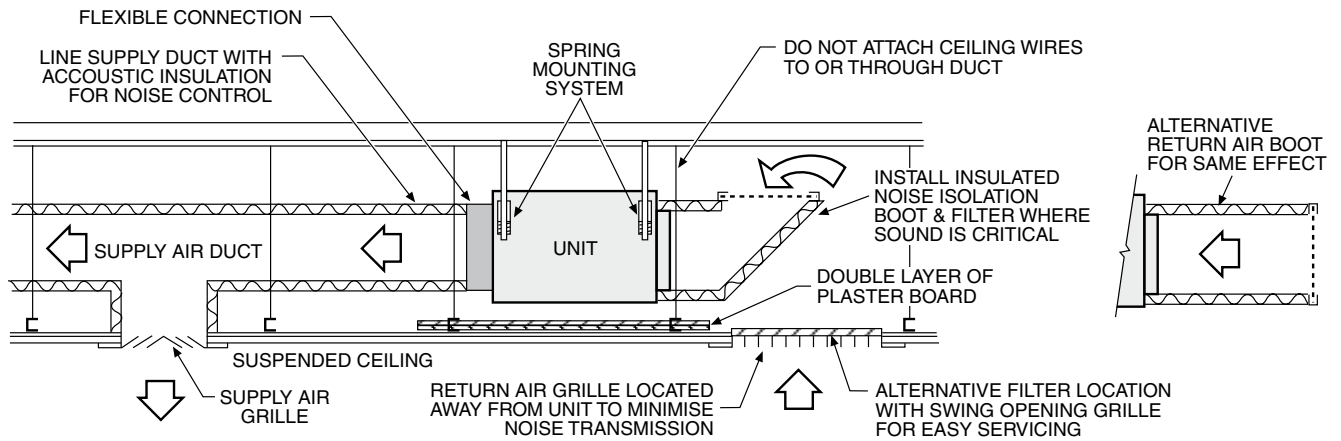
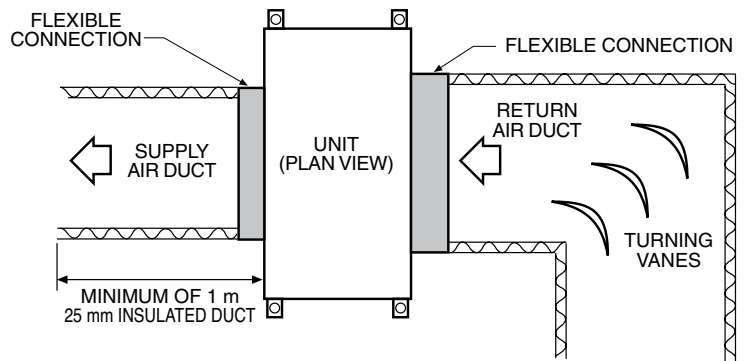


Condensate Drain

Fig. 5 Application Considerations

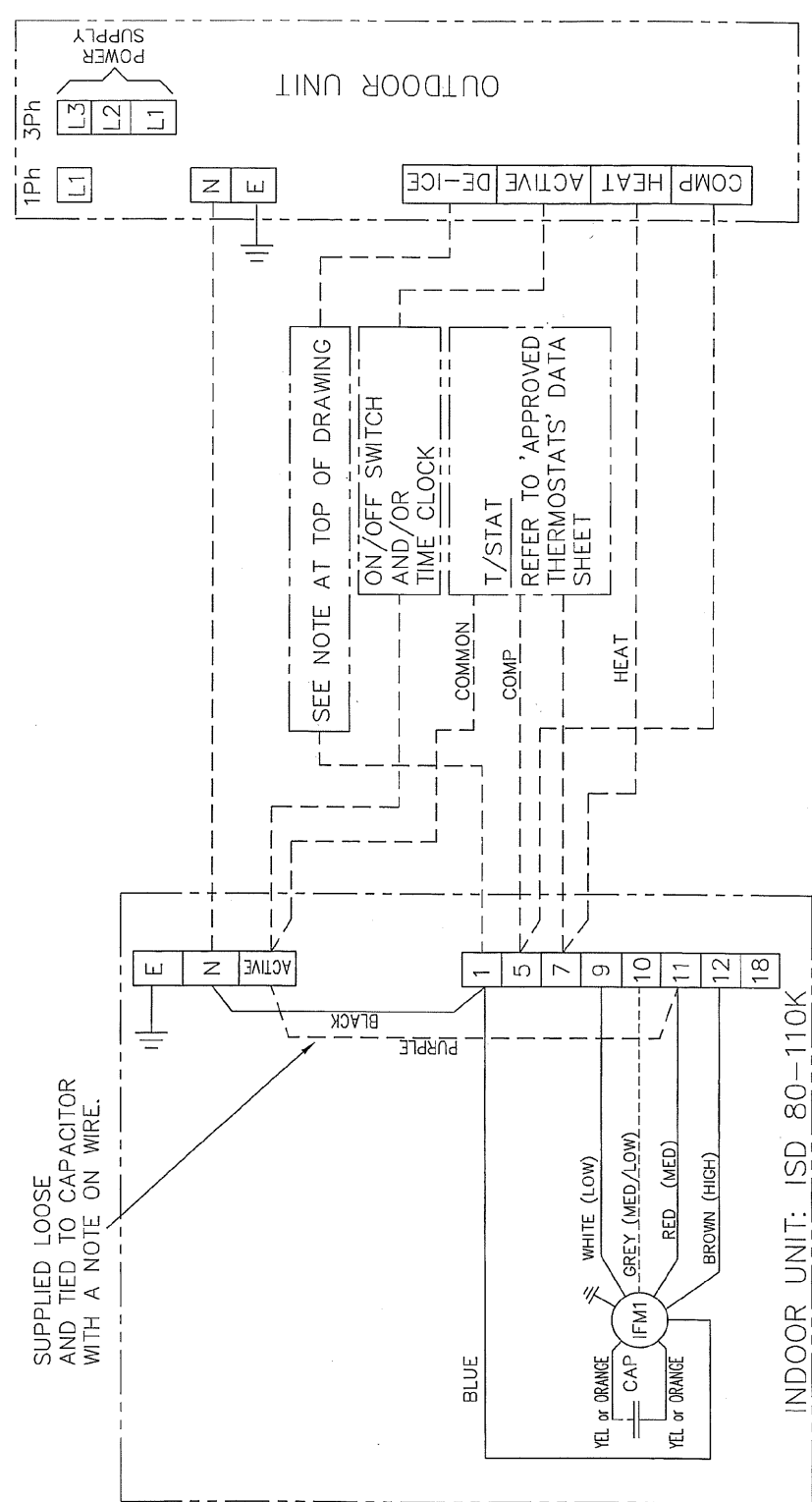
Recommendations for Noise Isolation - particularly for high static installations:

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.



NOTE: IT IS RECOMMENDED THE ELECTRICIAN RUN ONE SPARE WIRE BETWEEN OUTDOOR AND INDOOR UNITS. THIS IS ONLY REQUIRED IF THE INDOOR FAN IS TO BE FORCED OFF DURING DE-ICE CYCLE. THE WIRE SHOULD BE CONNECTED BETWEEN INDOOR TERMINAL 1 AND OUTDOOR TERMINAL (DE-ICE), AND THE WIRE BETWEEN 1 AND N ON THE INDOOR UNIT SHOULD BE DISCONNECTED.

WARNING 1 THE LOOSE PURPLE WIRE TIED TO CAPACITOR IS ONLY TO BE FITTED WHERE ONE FIXED SPEED IS USED. IT MUST NOT BE CONNECTED WHEN USING A MULTI SPEED SWITCH.



NOTE: CHECK WIRING BEFORE SWITCHING ON, INCORRECT CONNECTION WILL DAMAGE MOTORS.

CAP	CAPACITOR
IFM1	INDOOR FAN MOTOR
LAT	LOW AMBIENT T/STAT

Title ISD 80-110K (SLAVE)
WIRING SCHEMATIC

Drawn B.P.	Date 12.04.07	Drawing No. 525-124-002	Revision C
Scale			

MODEL	ISD	ISD	ISD	ISD	ISD	ISD
	80	83	95	96	110	
INDOOR	1.52	1.8	1.6	1.8	1.8	1.8
FAN MOTOR	1.01	1.55	1.1	1.59	1.59	1.59
RUNNING AMPS	0.91	1.07	1.07	1.4	1.4	1.4
	0.86	0.95	0.95	1.1	1.1	1.1
CAPACITOR	8 MFD	8 MFD	8 MFD	8 MFD	8 MFD	8 MFD

ISSUE	MODIFICATION	ECN	DATE	APRVD
C	ISD 83 ADDED TO DATA TABLE	N241016-12-09	KTT	
B	ISD 140 REMOVED FROM TITLE, TABLE & SCHEMATIC. 96 ADDED	N233309-11-09	D.A.B	
A	CAPACITOR'S DATAS - ADDED	M153918-05-07	B.P.	