

IMDL 40, 60, 90, 130

Ducted Fan Coil Units

Electric Heat Kit

Installation Instructions

GENERAL

This electric booster heat kit is designed specifically for the IMDL Series of ducted fan coil air conditioning systems, and must be installed in accordance with all national and local safety codes. Installed correctly, this kit will permit the IMDL unit to conform to AS/NZS 3350.2.40 1997.

A fan run-on timer is included for rapid dissipation of residual heat. A 24 hour power supply is required to the IMDL unit to safeguard this facility.

Note: The electric heat kit is compatible with left and right handed IMDL units.

IMDL INDOOR UNIT ELECTRIC HEAT KIT

Components:

1. Electric element:-
IMDL 40: 1.5 kW element, 6.6 A
IMDL 60: 2 kW element, 8.8 A
IMDL 90: 3 kW element, 13.2 A
IMDL 130: 4 kW element, 17.6 A
2. Two contactors.
3. Auto high temperature thermostat (overload).
3. Manual high temperature thermostat (overload).
5. Wiring loom
6. Thermostat bracket
7. Thermostat bracket cover

8. Heat shield (IMDL 130 has 2 pieces)
9. Two element support brackets (IMDL 130 only)
10. Four glass fibre tubes; 25 mm long
11. Eight No.6 x 10 long PK screws
12. Six No.8 x 13 long PK screws
13. Ten No.8 x 19 long PK screws
14. Fan run-on timer
15. Wiring loom for fan run-on timer
16. No.8 x 38 long PK screw.

Check that all items of the kitset are supplied and no damage has occurred to the items.

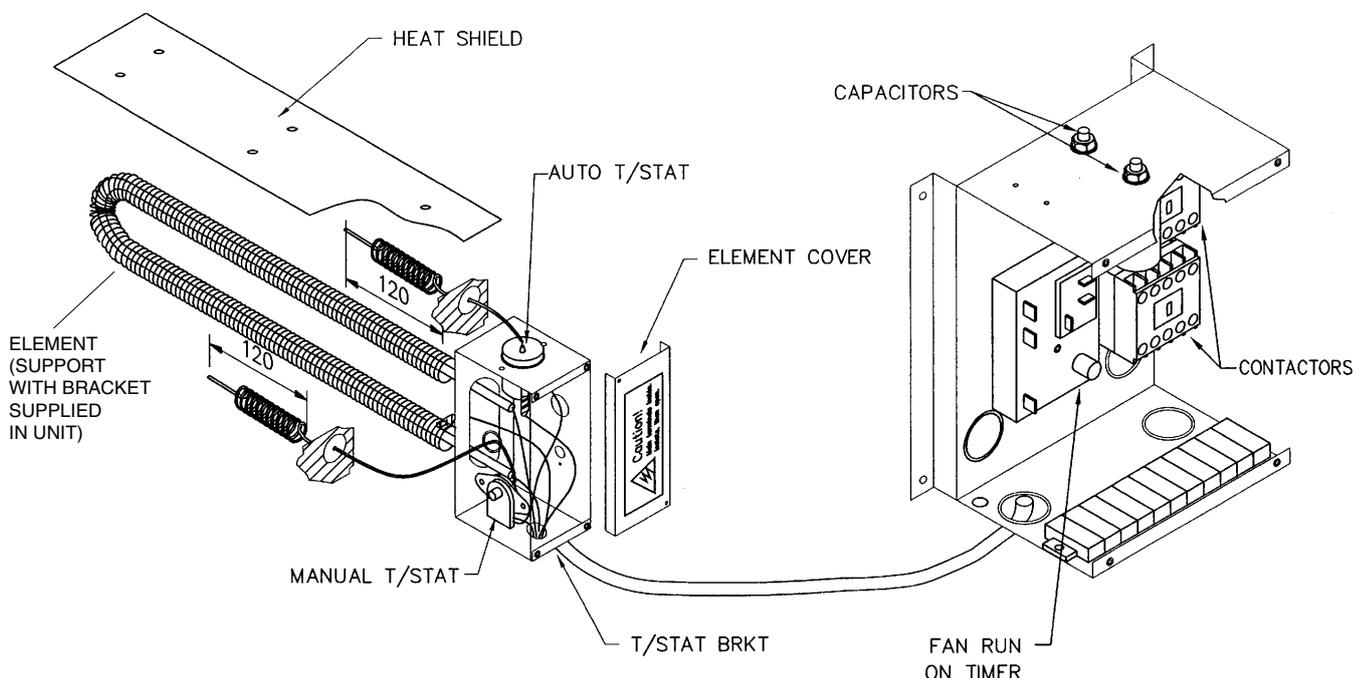
INSTALLATION

1. Remove the IMDL unit's electrical box cover and oval supply air spigots, if fitted.
2. Secure the heat shield to the pre-drilled upper panel using the longest PK screws supplied. IMDL 130 model also has element support brackets supplied which must be suspended, now, using some of these same PK screws.
3. Secure the thermostat bracket to the side of the unit using the holes and screws provided.
4. From inside the unit, insert the electric element ends through the two holes in the unit and into the thermostat bracket (see figure 1). Support the elements on the unit's built-in support brackets.

5. Prepare the sensor capillaries:
IMDL 40/60 only:
Shape each high temperature thermostat's sensor capillary into an extended coil by winding it around a suitable pipe (approx. 12 mm dia.).
IMDL 90/130 only:
Maintain both sensors capillaries straight. Slide two glass fibre tubes supplied on to each capillary.
6. Using screws supplied, secure the thermostat to the thermostat bracket and poke the capillary through the hole in the unit's side panel (see figure 1 or 2).
Note: The capillary must not be positioned in such a way that it is in danger of touching the element.
IMDL 90/130 only:
a) Locate the supporting brackets that are punched out in the heat shield. Snap the tag and pull bracket down to a 90° angle.
b) Align the glass fibre tubes on the capillary with the supporting brackets and push into place.
7. Screw the supplied contactor and fan run-on timer in place inside the electrical box (see figure 1 or 2).
8. Use the supplied wiring looms to complete the wiring connections as shown in the wiring diagram overleaf.

Fig. 1 IMDL 40/60

Assembly



9. Replace the electrical box and secure the thermostat bracket cover.
10. Replace the oval supply air spigots, if applicable.
11. If necessary, replace the IMDL unit's external fuse to allow for the heat kit's additional current.

OPERATION

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.

Wiring Looms

ELECTRIC HEAT KIT

| Item | Length (mm) | Colour | From | To |
|------|-------------|--------|-----------------|-----------------|
| 1 | 830 | Green | element Earth | E |
| 2 | 750 | Orange | HST | HEAT |
| 3 | 750 | Orange | MST | HCC1 term'l A1 |
| 4 | 380 | Red | L1 | HC1 term'l 1 L1 |
| 5 | 100 | Red | HC1 term'l 2 T1 | HC2 term'l 1 L1 |
| 6 | 280 | Black | N | HCC1 term'l A2 |
| 7 | 200 | Black | HCC1 term'l A2 | HCC2 term'l A2 |
| 8 | 195 | Orange | MST | HST |
| 9 | 200 | Orange | HCC1 term'l A1 | HCC2 term'l A1 |

Note: Items 1–3 are enclosed in a PVC sleeve.
Connect element's Orange wire to HC1 term'l T1, and element's Black wire to terminal 'N'.

FAN RUN-ON TIMER

| Item | Length (mm) | Colour | From | To |
|------|-------------|--------|-----------------|-----------------|
| 1 | 180 | Green | Main Earth Stud | E |
| 2 | 400 | Green | Elec. Box Cover | Main Earth Stud |
| 3 | 190 | Red | L1 | L2 |
| | 60 | Red | COM | L2 |
| 4 | 130 | Grey | F | G |
| 5 | 120 | Grey | 1 | NO |
| 6 | 230 | Black | N | L1 |

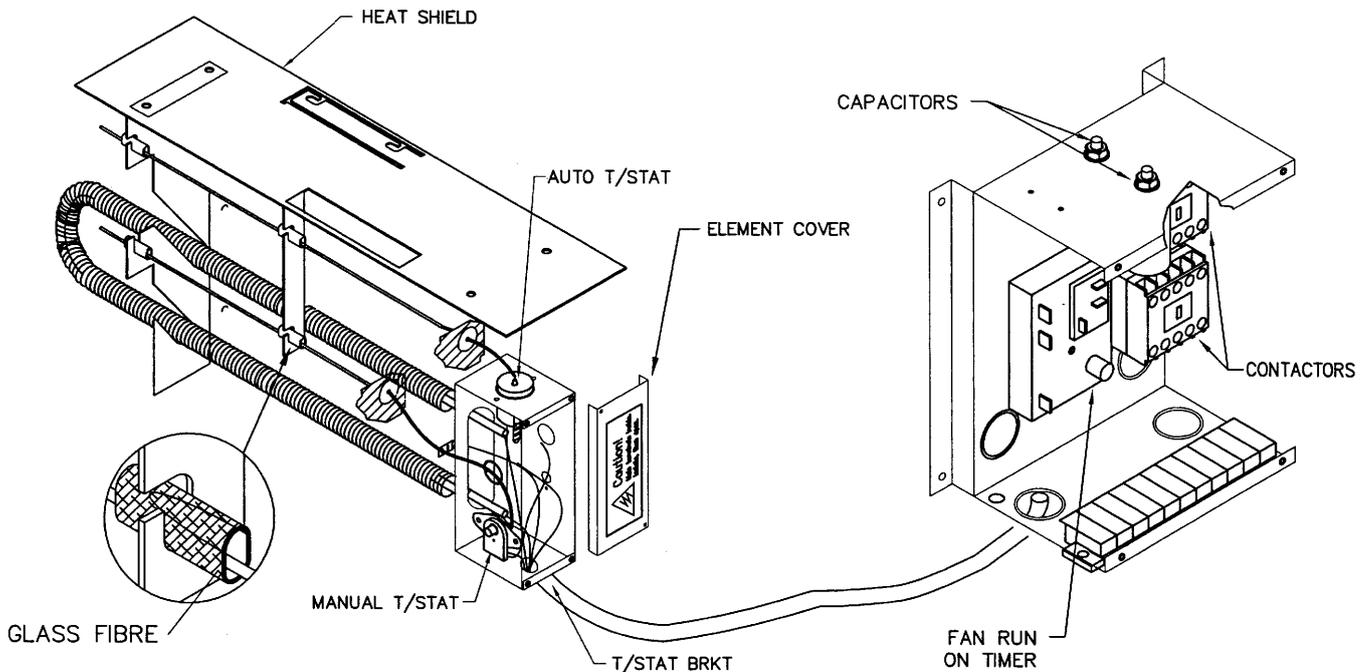
Note

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

This pamphlet replaces the previous issue no. 2403 dated 08/04.
Wiring revision D - fan run on timer incl.

Fig. 2 IMDL 90/130

Assembly



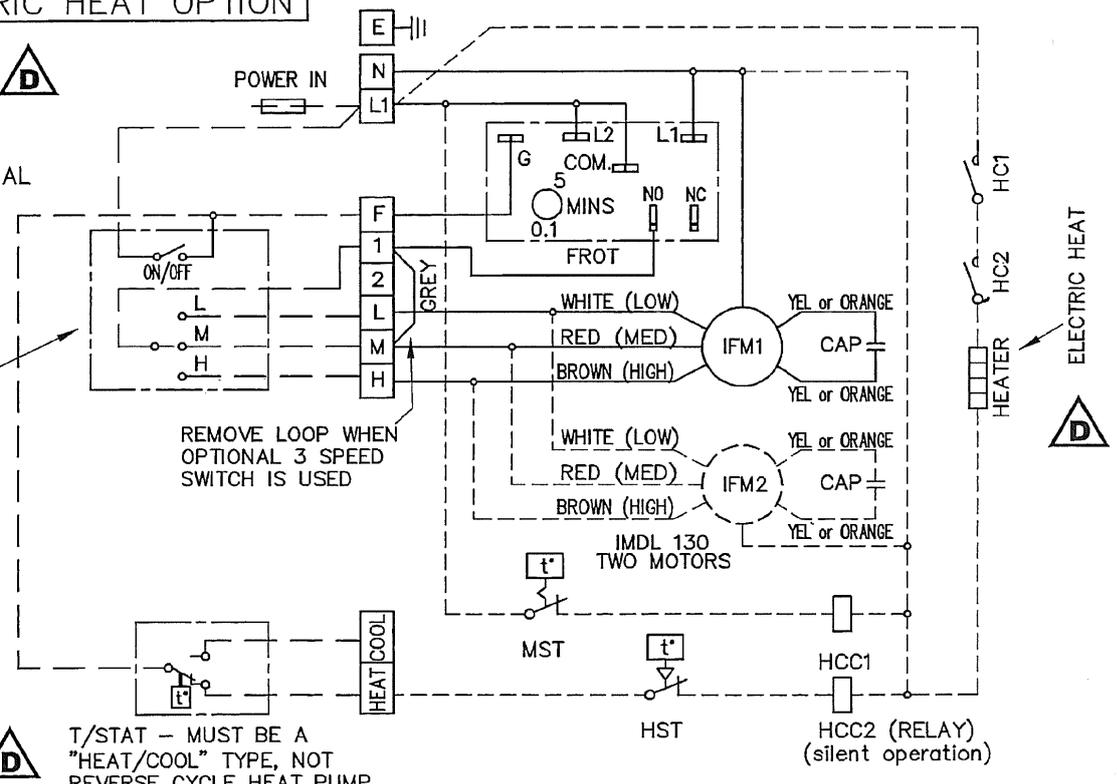
WITH ELECTRIC HEAT OPTION

IMPORTANT:
24 HOUR POWER
SUPPLY IS ESSENTIAL

OPTIONAL ON/OFF
AND 3 SPEED SWITCH

REMOVE LOOP WHEN
OPTIONAL 3 SPEED
SWITCH IS USED

T/STAT - MUST BE A
"HEAT/COOL" TYPE, NOT
REVERSE CYCLE HEAT PUMP



| MODEL | | IMDL 40 | IMDL 60 | IMDL 90 | IMDL 130 |
|----------------------|-----------|---------|---------|---------|------------|
| FAN MOTOR FLA (A) | S Version | 0.40 | 0.60 | 0.60 | 0.4 + 0.6 |
| | M Version | 0.45 | 0.60 | 0.70 | 0.45 + 0.7 |
| | H Version | 0.60 | 0.70 | 1.40 | 0.7 + 1.4 |
| ELEC. HEAT | SIZE kw | 1.5 | 2.0 | 3.0 | 4.0 |

CLIENT WIRING ———
Interconnections between units by clients.
Double insulated multi-core cable.
**NOTE: CHECK WIRING BEFORE SWITCHING ON.
INCORRECT CONNECTION WILL DAMAGE MOTOR.**

| | |
|------|----------------------------------|
| APS | AIR PRESSURE SWITCH |
| CAP | CAPACITOR |
| HC | HEATING CONTACTOR |
| HCC | HEATING CONTACTOR COIL |
| HST | AUTO HIGH TEMP. T/STAT |
| IFM1 | INDOOR FAN MOTOR |
| IFM2 | INDOOR FAN MOTOR (IMDL 130 ONLY) |
| MST | MANUAL HIGH TEMP. T/STAT |
| FROT | FAN RUN ON TIMER |

Title **IMDL 40/60/90/130
WIRING SCHEMATIC**



| | | | |
|--------------|--------------------|-------------------------|------------|
| Drawn L.H.Z. | Date 16-02-01 | Drawing No. 313-014-002 | Revision D |
| Scale | <i>Handwritten</i> | | |

