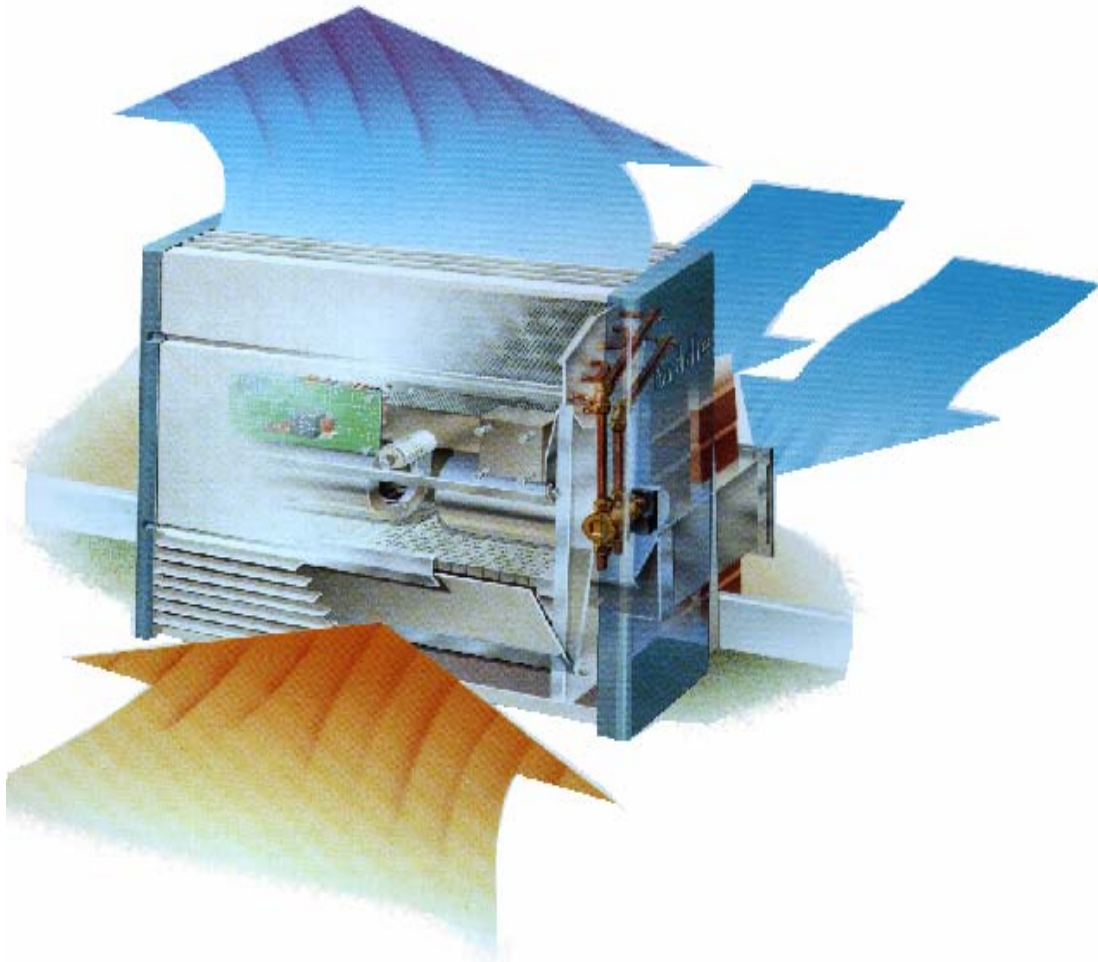


INNOVAIR
Intelligent Fan Convectors – IQL Controller
SIZE 3 Units

INSTALLATION, OPERATION & MAINTENANCE
INSTRUCTIONS



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Section 1. GENERAL INFORMATION

IMPORTANT!

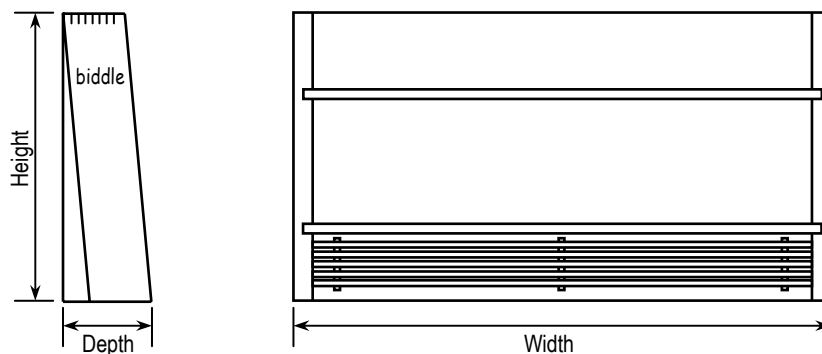
IT IS ESSENTIAL TO ISOLATE THE UNIT FROM THE ELECTRICAL SUPPLY AND THE CONTROL CIRCUIT POWER SUPPLY BEFORE CARRYING OUT ANY MAINTENANCE, AND TO ENSURE THAT THE POWER CANNOT BE ACCIDENTLY RESTORED BY UNAUTHORISED PERSONNEL.

DIMENSIONS & WEIGHTS

Dimension	Cased Unit	Recessed Unit
Width	1808 mm	1764 mm max over fixings
Depth	330 mm	324 mm
Height	860 mm	859 mm
Weight	95 kg	91 kg

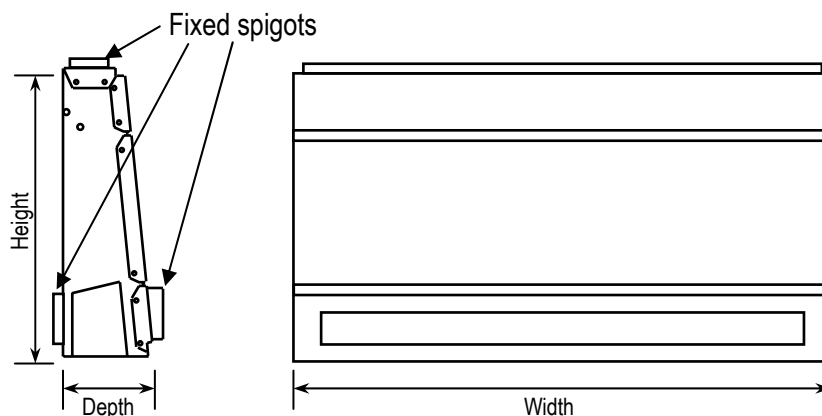
CASED UNITS (with fixed grilles)

Figure 1a



RECESSED/ CHASSIS UNITS (with loose grilles)

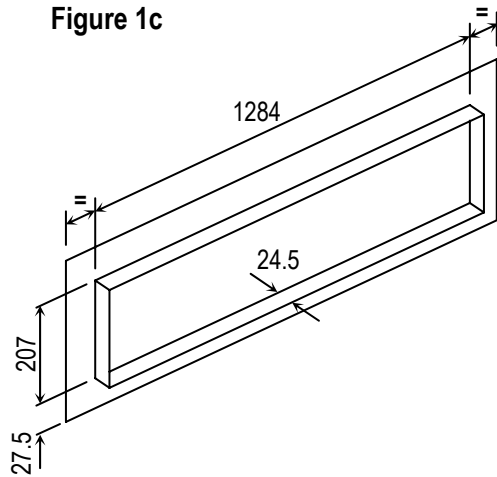
Figure 1b



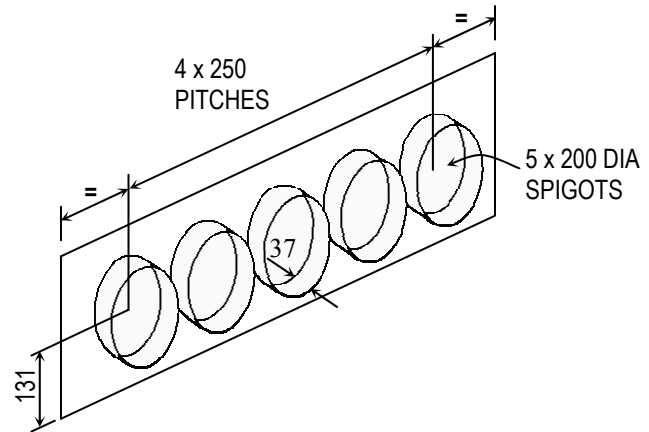
Section 1. GENERAL INFORMATION - continued

DUCT / SPIGOT CONNECTIONS

FRESH AIR INLET CONNECTIONS
(Back or Base position)
Figure 1c



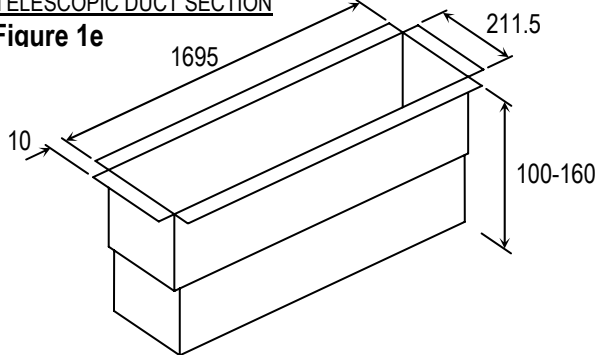
2 Standard Styles
Figure 1d



DISCHARGE & RETURN AIR CONNECTIONS
(On Recessed / Chassis units only)

TELESCOPIC DUCT SECTION

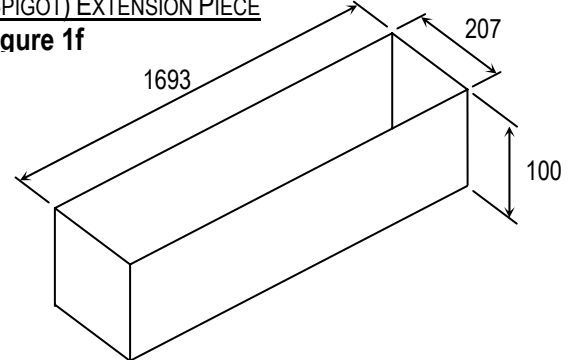
Figure 1e



Use where an adjustable short duct section is required to connect to the Biddle linear grille. The telescopic duct is sized to accept the standard Biddle Air grille.

(SPIGOT) EXTENSION PIECE

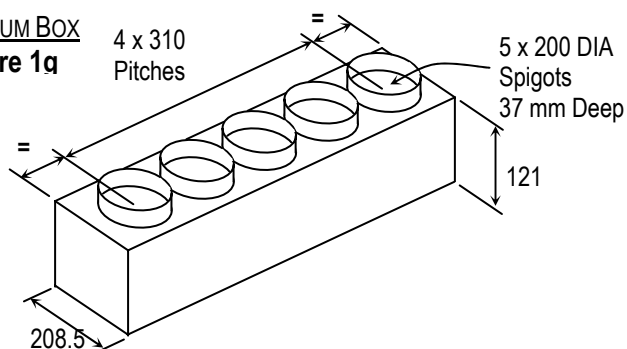
Figure 1f



Use where the discharge or return air will connect to the Biddle linear grille but the connection needs to be longer than 160mm. The spigot extension piece allows connection of ducting (by others) of a cross-section suitable for the Biddle grille.

PLENUM BOX

Figure 1a



Purpose made plenum box for connection of circular ducting. Blanking caps are available for spigots not used but only one or two should be blanked at any one time. Specially sized spigots are available. Contact the sales office.

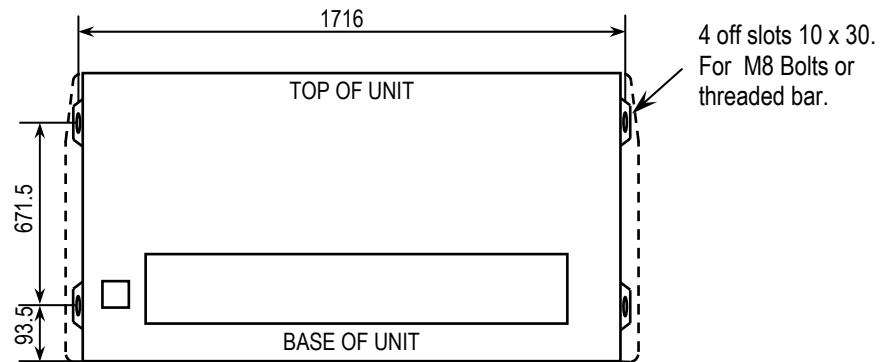
Section 1. GENERAL INFORMATION - continued

FIXING POSITIONS / PIPEWORK ENTRY

FIXING CENTRES (Viewed from back of unit)

Dimensions in mm

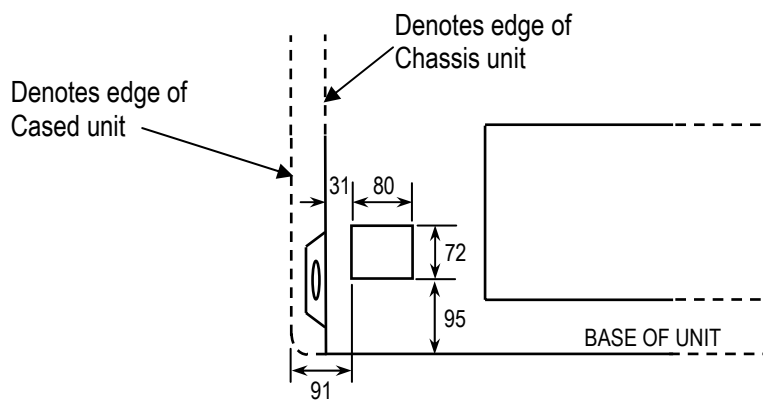
Figure 2a



PIPEWORK APERTURE (Viewed from back of unit)

Dimensions in mm

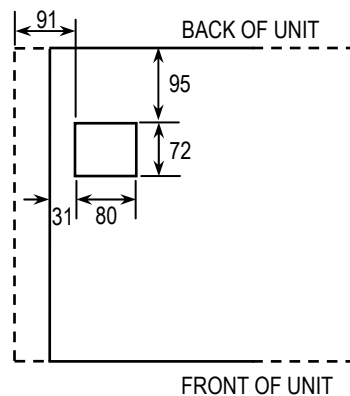
Figure 2b



ALTERNATIVE PIPEWORK APERTURE (Viewed from base of unit)

Dimensions in mm

Figure 2c



Dimensions in mm

Section 2. INSTALLATION – Typical Cased Unit

IMPORTANT.

PLEASE READ ALL SECTIONS BEFORE PROCEEDING WITH INSTALLATION

STAGES INVOLVED

Figures 3 to 7 show how the unit is dismantled, connected to the fresh air supply and re-assembled. See additional sections within the installation instructions for connection to electrical supply and controls.

Take care not to damage components and accessories when handling them.

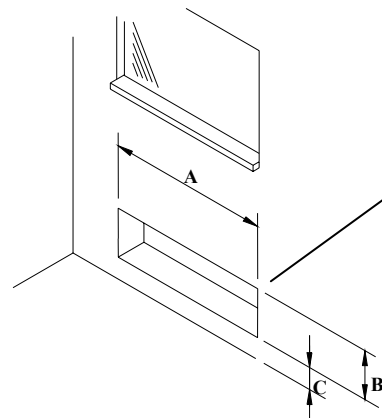
Before installing the unit check that there will be adequate access space for maintenance (recommended 300mm each side).

The approximate amount of time needed to install the unit is half a day, plus the time needed to make the fresh air duct hole in the building.

Remember! that in order to get heating on water heated units, all the air must be bled from the system including the coil in the unit.

FRESH AIR APERTURE THROUGH OUTSIDE WALL

Figure 3



Minimum Aperture Dimensions

Innovair Size 3 Only

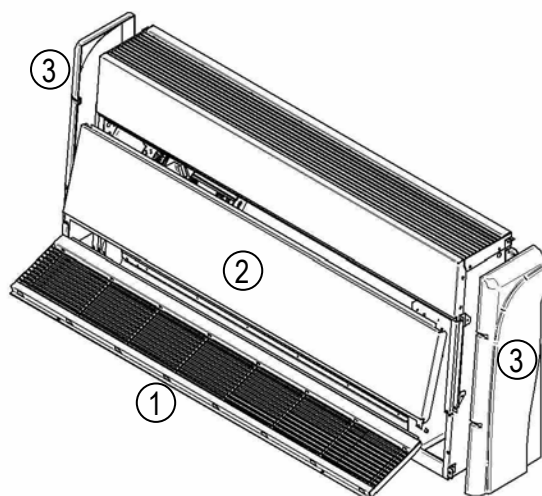
A = 1305 mm

B = 226 mm

C = 18 mm (Dimension when Innovair is sitting directly on floor)

CASED UNIT - DISMANTLING

Figure 4



The Innovair Units will be delivered to site pre-assembled. All metal panels will be attached. The moulded end panels will be supplied loose.

Remove casing in following order:

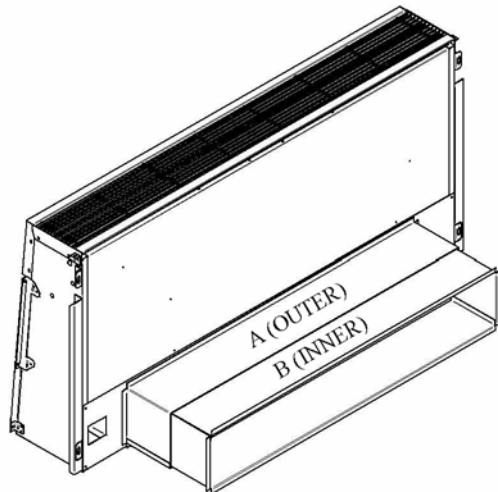
1. Remove recirc grille access panel. Undo 2 screws on bottom edge. Pull bottom edge forward and lower panel away from unit.
2. Remove front access panel. Undo 2 screws on bottom edge and lower panel to clear retaining lip at top.
3. Remove plastic end panels. Undo 3 screws on front edge and 1 screw at top rear. (This only needs to be done if unit already installed and access is required for venting coil (RHS panel) or damper motor access (LHS panel).

Section 2. INSTALLATION – Typical Cased Unit Continued

FIXING CASED UNIT TO OUTSIDE WALL & ATTACHING WALL SLEEVE

Figure 5

View on rear of unit



2. Offer the unit up to the fresh air aperture (already cut into the external wall) making sure that the outer section (Part A) freely slides inside of the wall aperture. Fix the unit to the wall via 4 off fixing lugs with suitable screws.

3. From outside, slide the inner section of the telescopic wall sleeve (Part B, flange on outside of wall) as far into part A as the wall thickness will allow. Seal the joint inside of the two halves of the sleeve using 'duct tape' or similar.

4. Before fitting the external weatherproof grille, un-wind the cable of the fresh air sensor, located within the Innovair unit (fresh air aperture) and position the sensor just inside of the external weatherproof grille. Failure to position the sensor behind the grille may prevent accurate operation of the unit.

5. Fix the weatherproof grille (usually supplied by others) to the outside wall.

6. Feed the water pipework (if applicable) through either of the two apertures provided in the back or base of the unit casing. Connect pipework to the 2 open ports of the control valve.

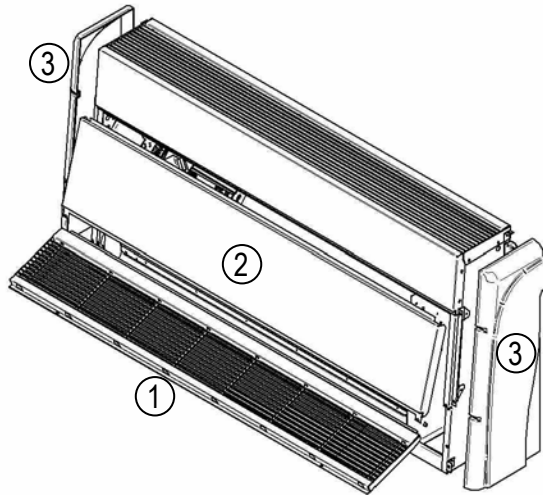
7. Ensure that both pipework and heating coil is fully vented.

SEE PAGE 13 FOR ELECTRICAL CONNECTIONS.

Section 2. INSTALLATION – Typical Cased Unit Continued

CASED UNIT - ASSEMBLING

Figure 6

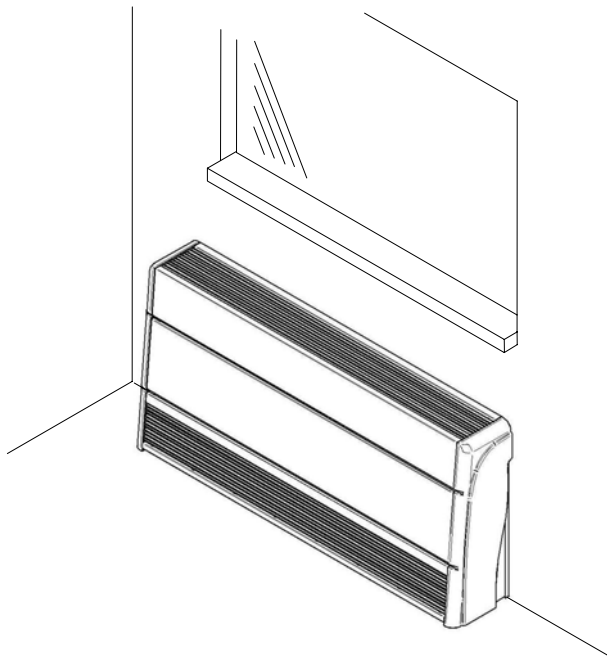


Assemble casing in following order:

1. Attach plastic end panels using screws on front edge.
2. Attach front access panel. Locate lip on top edge of panel into retailing channel on upper casing (A) Push home access panel into channel and fix using two screws supplied.
3. Attach recirc grille access panel. Locate top edge of recirc grille access panel beneath bottom edge of main access panel. Push home grille panel in an upward direction at the same time turning the panel vertically. Fix using the two screws provided on bottom edge.

COMPLETED ASSEMBLY CASED UNITS

Figure 7



Unit installed and ready to operate.

Make sure all debris is removed from the unit and surrounding area.

Section 2. INSTALLATION – Typical Chassis Unit

IMPORTANT.

PLEASE READ ALL SECTIONS BEFORE PROCEEDING WITH INSTALLATION

STAGES INVOLVED

Figure 8 shows a typical chassis type unit suitable for mounting within a ceiling void. The following notes give instruction on how the unit is dismantled, connected to the fresh air, return air and supply air ducts and re-assembled. See additional sections within the installation instructions for connection to electrical supply and controls.

Most components used in the manufacture of the chassis unit are the same as the cased unit. The main exception being that there are no moulded end panels and that the return air & discharge apertures have fixed spigots (not grilles).

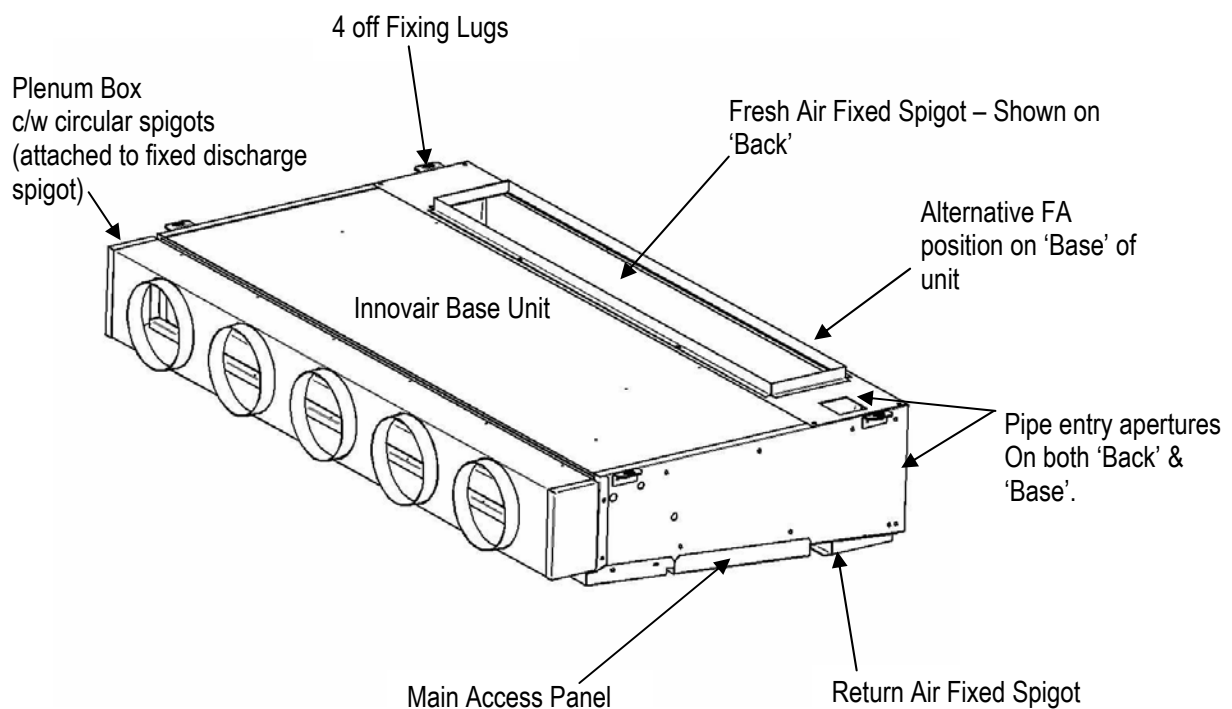
Care should be taken not to damage components and accessories when handling them.

Before installing the unit check that there will be adequate access space for maintenance (recommended 300mm each side).

Remember! that in order to get heating on water heated units, all the air must be bled from the system including the coil in the unit.

TYPICAL CEILING VOID MOUNTED CHASSIS UNIT.

Figure 8.



Section 2. INSTALLATION – Typical Chassis Unit – cont.

CHASSIS UNIT – DISMANTLING.

The Innovair Units will be delivered to site pre-assembled with all panels attached. The various duct connections (Telescopic, Spigot Extension & Plenum Box) will be loose and will require attaching to the relative fixed spigot on site.

It will only be necessary to remove the main access panel to enable the unit to be installed.

To remove the access panel undo the 2 retaining screws and slide the panel towards the return air spigot to release the panels retaining lip from a support channel.

FIXING CHASSIS UNIT & ATTACHING EXTERNAL DUCTING.

Locate and fix the Innovair unit into position using the 4 fixing points provided. (10 x 30mm slots). Fix using suitable screws, bolts or threaded drop rods.

Fresh Air Connection.

If fresh air connection is directly against a double skin outside wall:

Use the telescopic wall sleeve provided by Biddle (see Figure 5 and associated notes on page 7)

If fresh air connection is remote from Innovair unit:

Fix fresh air duct (by others) directly to the fixed spigot provided at either the back or base position.

Before fitting the external weatherproof grille, un-wind the cable of the fresh air sensor, located within the Innovair unit (fresh air aperture) and position the sensor just inside of the outside face of the wall. This may involve extending the sensor cable if the ducting is sizable.

Fix the weatherproof grille (usually supplied by others) to the outside wall.

Return Air Connection.

It is not necessary to have a ducted return air if the ceiling void is being used as a return air plenum.

However if a solid ducted connection is required then there are 4 options available. Using the fixed spigot supplied as standard with the unit or one of the 3 connection options shown on page 4 of the manual.

Option 1. Fixed spigot.

Connect suitable sized ducting (by others) directly onto the fixed spigot supplied with the unit.

Option 2. Telescopic duct section by Biddle.

Attach outer section to return air spigot using screws provided, the inner section of the duct with external bends fits against the rear of builderwork aperture. Adjustment of the duct is between 100mm and 160mm.

Option 3. Spigot Extension Piece by Biddle.

Attach to the unit using screws provided. If the ducting needs to be longer than 100mm, attach suitable ducting (by others) to the extension piece.

Option 4. Discharge Plenum by Biddle.

Attach to the unit using screws provided. Allows connection of circular ducting.

Section 2. INSTALLATION – Typical Chassis Unit – cont.

Supply Air Connection.

Chassis units should always have a ducted discharge to the outlet grille to prevent 'short circuiting' of the conditioned air back into the unit. The connection options are the same as the return air with 4 options available. Using the fixed spigot supplied as standard with the unit or one of the 3 connection options shown on page 4 of the manual.

Option 1. Fixed spigot.

Connect suitable sized ducting (by others) directly onto the fixed spigot supplied with the unit.

Option 2. Telescopic duct section by Biddle.

Attach outer section to return air spigot using screws provided, the inner section of the duct with external bends fits against the rear of builderwork aperture. Adjustment of the duct is between 100mm and 160mm.

Option 3. Spigot Extension Piece by Biddle.

Attach to the unit using screws provided. If the ducting needs to be longer than 100mm, attach suitable ducting (by others) to the extension piece.

Option 4. Discharge Plenum by Biddle.

Attach to the unit using screws provided. Allows connection of circular ducting.

Section 3. ELECTRICAL CONNECTIONS

CONNECTING THE UNIT TO MAINS POWER

The suggested mains supply cables for Innovair are as follows: (Installation cable sizing should always be done however, by a qualified electrician in accordance with current regulations).

- Size 3 water heated units, 3-core mains cable (Cu/PVC/PVC) size 1mm²
- Size 3 electric heated units, 4-core steel wire armoured cable (Cu/PVC/PVC/SWA/PVC) size 1.5mm² or single core conduit cable (Cu/PVC) size 1.5mm², 3 lives/neutral/earth with suitable size 20mm conduit and fittings.

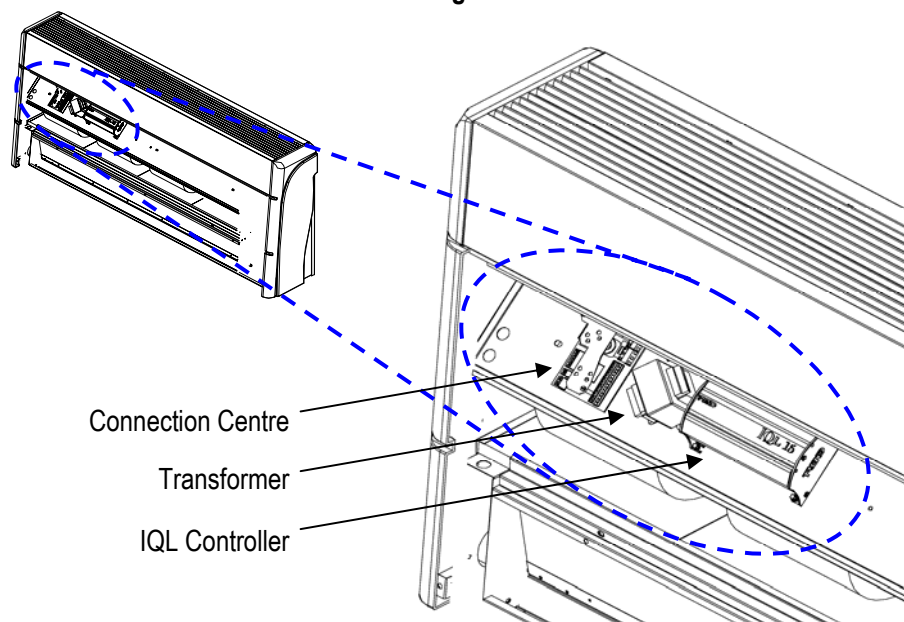
	Mains Supply	Running Current (Amps)	Starting Current (Amps)
Water Heated	230v/1/50Hz	1.5	4.5
Electric Heated	400v/3/50Hz	14 per phase	16 per phase

The electric's control panel is located directly behind the main access panel.

Size 3 (Water) Thread the mains power cable through the cable gland on the LHS. Wire to terminals L N E on the connection centre PCB located at the LH end of the electric control panel. See figure 9. Use cable ties provided to secure cables and ensure they are not trapped when hinged panel is replaced.

Size 3 (Electric) Thread mains power cable through cable gland plate at RHS of the unit. Wire to terminals L₁ L₂ L₃ N and Earth stud at bottom of EMC filter which is located inside the unit on the lower right hand side. See wiring diagram.

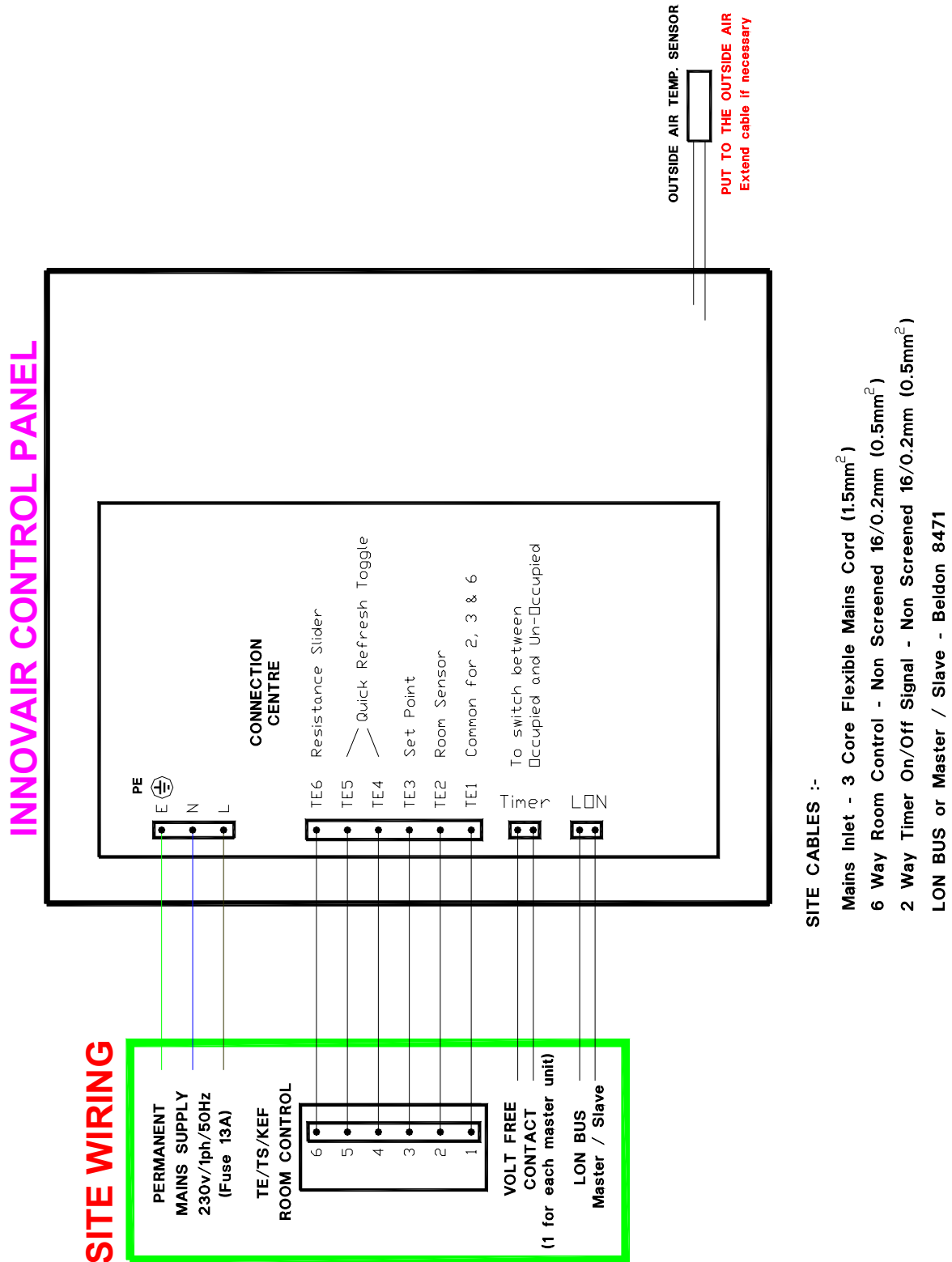
Figure 9



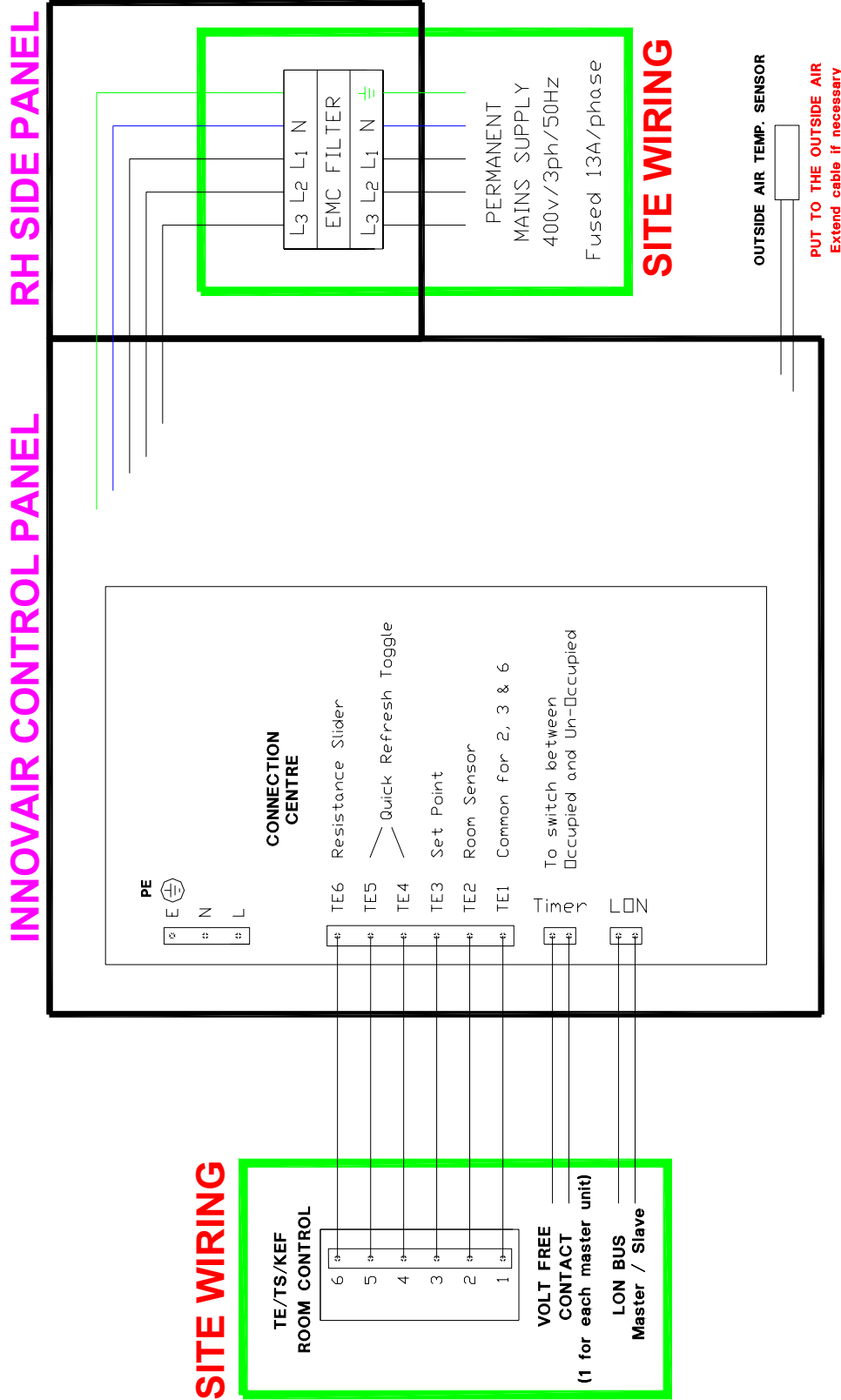
The connection of on site wiring should be restricted to designated connection points, i.e. the connection centre, EMC filter etc. No electrical connection should be made directly with the IQL controller. Always read the wiring diagram.

Section 3. TYPICAL WIRING DIA. – WATER HEATED UNIT

TYPICAL WIRING DIAGRAM – CUSTOMER CONNECTION CENTRE. (Check with actual diagram for the specific project).



Section 3. TYPICAL WIRING DIA. – ELECTRIC HEATED UNIT



SITE CABLES :-

- Mains Inlet - SWA or Single Core Conduit Cable
- 6 Way Room Control - Non Screened 16/0.2mm (0.5mm²)
- 2 Way Timer On/Off Signal - Non Screened 16/0.2mm (0.5mm²)
- LON BUS or Master / Slave - Beldon 8471

Section 3. ELECTRICAL CONNECTIONS - continued

CONNECTING THE REMOTE CONTROL PAD TO THE UNIT.

The remote room controller supplied with the unit should be connected to the customer connection centre at the LHS of the control panel using Non Screened 16/0.2mm (0.5mm²) cable. Cable ties and cable glands are provided to secure cables.

THIS CONNECTION IS VOLTAGE FREE AND SHOULD NOT BE CONNECTED TO ANY OTHER VOLTAGE SOURCE.

The Model TB/TS/KEF-BIDDLE wall mounted controller for manual heating & ventilation adjustment requires 6 cores connected to terminals TE1 – TE6.

The Model TB/TS/K-BIDDLE for manual heating & automatic / no ventilation adjustment requires 3 cores connected to terminals TE1, TE2 & TE3 only.

Cables must be connected to both the customer connection centre located inside the unit control panel and the remote control pad using the identically numbered terminal blocks.

See Customer connection centre diagram (page 13/14) and installation instructions supplied with the control pad for details.

CONNECTING UNITS AS MASTER/SLAVE OR SLAVE/SLAVE ARRANGEMENT

Master / Slave connection is made via the LON terminal on the Customer Connection Centre. Connection should be made using 2 core Beldon 8471 cable. Cable ties and cable glands are provided to secure cables.

THIS CONNECTION IS VOLTAGE FREE AND SHOULD NOT BE CONNECTED TO ANY OTHER VOLTAGE SOURCE.

Cable should be connected from the LON terminal block on the master unit to the LON terminal block on the first slave unit and so on to the other slave units.

See Customer connection centre diagram for details. (page 13/14).

There is no limit to the number of slave units that can be connected to the master unit so long as the Beldon cable does not exceed 100m in length.

Section 3. ELECTRICAL CONNECTIONS - continued

CONNECTING THE UNIT TO A BMS

BMS connection is made via the 'LON' terminal on the Customer Connection Centre. Connection should be made using 2 core Beldon 8471 cable. Cable ties and cable glands are provided to secure cables.

THIS CONNECTION IS VOLTAGE FREE AND SHOULD NOT BE CONNECTED TO ANY OTHER VOLTAGE SOURCE.

BMS control enables supervisor software to switch units on and off, change software knob settings on the unit, Trend log etc. The basic internal strategy of the unit cannot be amended.

See Customer connection centre diagram for details. (page 13/14).

CONNECTING THE UNIT TO A TIMER CLOCK OR P.I.R. Sensor.

A timer clock or P.I.R. Sensor with volt free sensors should be connected to the unit via the customer connection centre using 2 core non screened 16/0.2mm (0.5mm²). Cable ties and cable glands are provided to secure cables.

Cable should be connected to the 'TIMER' terminal block.

THIS CONNECTION IS VOLTAGE FREE AND SHOULD NOT BE CONNECTED TO ANY OTHER VOLTAGE SOURCE.

See Customer connection centre diagram for details. (page 13/14).

Timer clocks and P.I.R. Sensors should be selected so that on 'closed contact' the Innovair will be in occupied mode and on 'open contact' the Innovair will be in un-occupied or nighttime mode.

Section 3. ELECTRICAL CONNECTIONS - continued

CONNECTING THE UNIT TO AN EXTRACT & OR SUPPLY FAN SYSTEM (Single phase supply & running current no greater than 8amps)

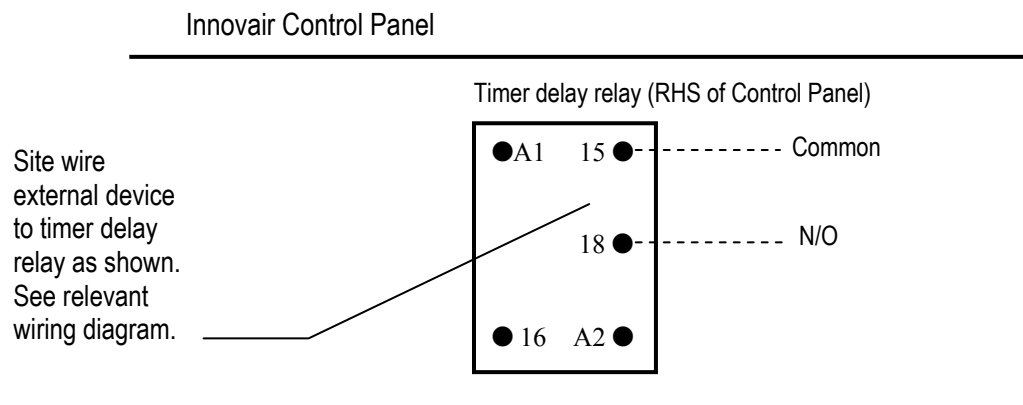
Where an extract fan or additional supply fan is required in the system, the on/off control of this device can be enabled via the Innovair units. This is achieved using either an 'on delay' or 'off delay' relay (depending upon the mode of operation) and is controlled via the IQL .

The relay can be provided (Optional extra) mounted and wired inside of the Innovair control panel for connection on site using 3 core mains cable size 1.0mm² cable. The relays can activate the external device when the Innovair unit is operating in either:

- Occupied Ventilation Mode or in
- Full Fresh Air Mode only (i.e. X 4 ventilation, free cooling or during night cooling).

To operate the external device in Occupied Ventilation Mode the relay must be an 'off delay' type.
To operate the external device when in full fresh air mode only, the relay must be an 'on delay' type.

Figure 10



Important:

The maximum electrical ratings for the external device (i.e. Extract Fan) are as follows:

8A	250V	AC1
3A	250V	AC11
8A	24V	DC1

Section 3. ELECTRICAL CONNECTIONS - continued

CONNECTING THE UNIT TO A BIDDLE CO₂ SENSOR

The Biddle supplied CO₂ sensor and connection equipment is normally for use on Stand Alone Innovair units and not the BMS linked type. Each unit is provided with a TB/TS/K-BIDDLE Room Controller and a CO₂ sensor, which is connected to built-in volt sensitive relays and control equipment.

Where more than 1 unit is provided in a single controlled space, then only the master unit needs to be connected to the Room Controller and the CO₂ sensor. For Master / Slave connection see page 12.

THE CO₂ SENSOR CONNECTIONS ARE VOLTAGE FREE AND SHOULD NOT BE CONNECTED TO ANY OTHER VOLTAGE SOURCE.

Terminal block connections for the CO₂ sensor are fitted within the Innovair units inside the electrical control panel on the RHS.

Cable should be:

Non Screened 16/0.2mm (0.5mm²) for connections G+ & G0 (24v Supply)

Screened 16/0.2mm (0.5mm²) for connections OUT1 & M (0 – 10v Signal)

See wiring diagram supplied with units for more information.

Section 4. CONTROL & OPERATION

STANDARD CONTROLS AND OTHER CONTROL OPTIONS

1. Manual / Stand Alone Type.

Standard External Controls Hardware (Supplied by Biddle)

1a. Remote Wall Mounted Controller Ref: TB/TS/KEF-BIDDLE

- Manual On/Off Control
- Manual Ventilation Level Control
- Manual Room Temperature Control

Additional Control Options Available

- 1b. Remote On/Off Control Via. Volt Free Contacts
 - ie. Timer, BMS or PIR (Connection block supplied as standard)
- 1c. Extract Control Via. Additional Relay Circuit (Not Standard Supply)
- 1d. Master / Slave group control Via. LON Terminal Connection (Supplied as standard)

2. Manual Heat / Automatic Ventilation.

Standard External Controls Hardware (Supplied by Biddle)

2a. Remote Wall Mounted Controller Ref: TB/TS/K-BIDDLE

- Manual Room Temperature Control Only

2b. Remote Wall Mounted CO₂ Sensor (Supplied by Biddle to order)

- Automatic control of ventilation levels based on CO₂ concentration.

IMPORTANT: With this arrangement there is no provision for Manual On/Off Control. This must be done via. a remote device ie. timer or BMS enabling signal.

Additional Control Options Available

- 2c. Extract Control Via. Additional Relay Circuit (Not Standard Supply)
- 2d. Master / Slave group control Via. LON Terminal Connection (Supplied as standard)

3. Automatic BMS Control.

Standard External Controls Hardware (Supplied by Biddle)

3a. Remote Wall Mounted Controller Ref: TB/TS/K-BIDDLE

- Manual Room Temperature Control Only

Additional Control Options Available

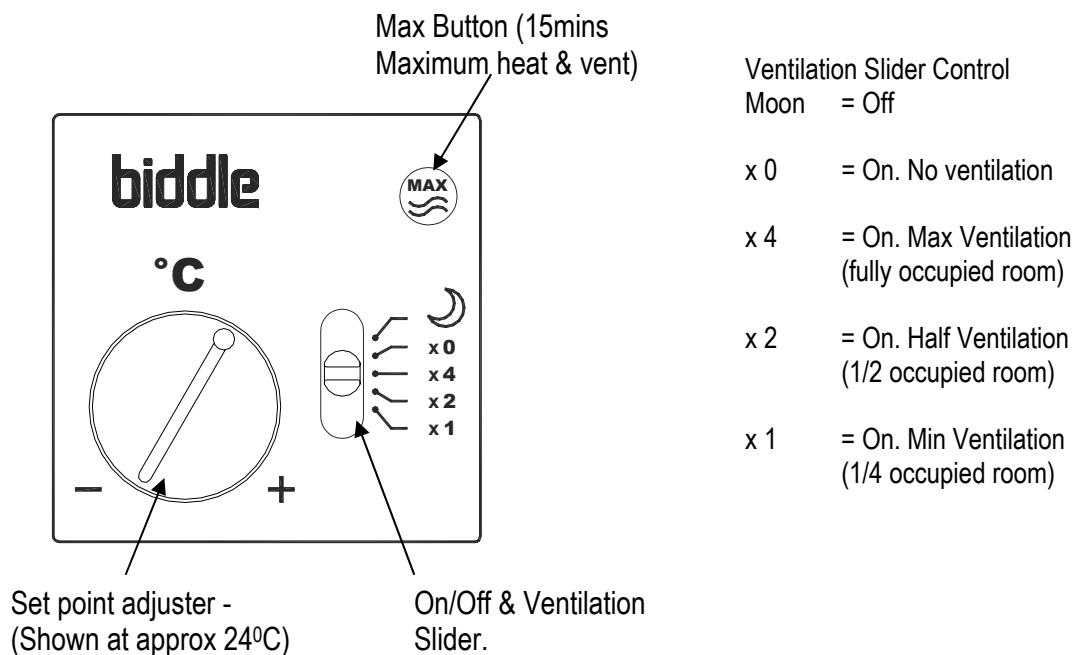
- 3b. Automatic control of ventilation levels based on CO₂ concentration Via CO₂ sensor (Supplied and fitted by others, wired through the BMS).
- 3c. PIR Occupancy sensor for On/Off Control (Supplied and fitted by others, wired through the BMS).
- 3d. Master / Slave group control Via. Direct Connection to BMS

Section 4. OPERATION – Manual / Stand Alone Type

Control Controller – Heat and Ventilation

Figure 11

Room Control type: TB/TS/KEF-BIDDLE for manual operation of Temperature & Ventilation.
Also incorporates a room air temperature sensor



Each new day – Reset the ventilation control to the desired level as the unit will automatically default to minimum (x 1) as it turns on to save energy.

DO NOT SWITCH UNIT OFF AT THE MAINS except in case of emergency

Unit Functionality:

When the slider is set in the top position indicated by the 'Moon' symbol the unit is effectively switched to OFF or in '**unoccupied**' set-back mode.

When the slider is set to any other position the unit will be in the ON position or in **normal 'occupied' operating** mode.

Normal 'occupied' operating mode.

In this mode the unit is operating to firstly control the level of fresh air ventilation (by cycling of the damper), and secondly to satisfy set point temperature requirements (by heating or free cooling).

Unoccupied' set-back mode.

In this mode the unit operates to satisfy the 12°C set back temperature or 'night time cooling requirement only.

During 'occupied' operating room temperature is controlled by the set-point adjuster, which can be rotated between the 15°C and the 30°C settings.



Ventilation level is controlled by moving the slider to X0, X1, X2, & X4 positions.

X 0 position gives heating and no ventilation.

X 1 position gives heating and $\frac{1}{4}$ ventilation or minimum occupancy.

X 2 position gives heating and $\frac{1}{2}$ ventilation or $\frac{1}{2}$ occupied

X 4 position gives heating and max ventilation or fully occupied room.

MAX button. This gives maximum ventilation at high fan speed for 15 minutes only. This is used to refresh the room as quickly as possible. The button must be pressed for a minimum of 2 seconds to operate.

Further information about the operation of the unit, the safety features and how the fans, the damper and the water heating valve are used to control ventilation, heating, free and night cooling are available on request.

WALL MOUNTED ROOM CONTROLLER FOR - HEAT & RECIRCULATION

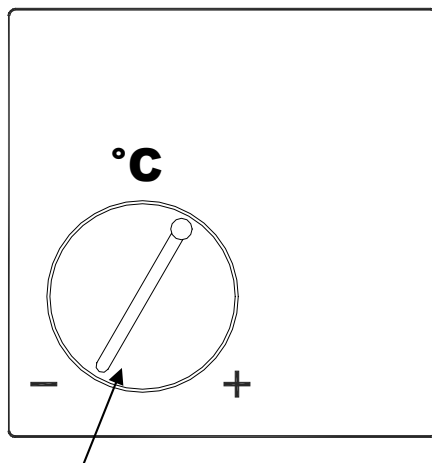
This is identical to the control pad supplied with the 'Heat & Ventilation' unit, but since there is no fresh air supply the ventilation slider has no effect other than to switch the unit between Normal occupied mode and unoccupied set back mode.

Temperature control is still provided by the set-point adjuster and the control pad incorporates a room air temperature sensor.

Section 4. OPERATION – Automatic Ventilation or BMS

Figure 12

Room Control type: TB/TS/K-BIDDLE for manual Temperature & Automatic Ventilation.
Also incorporates a room temperature sensor



Set point adjuster -
(Shown at approx 24°C)

DO NOT SWITCH UNIT OFF AT THE MAINS except in times of emergency

Unit Functionality:

In this format of operation the unit is effectively switched ON or OFF by the use of an external timer, PIR sensor or BMS. See individual connection information.

All ventilation rates are controlled automatically and there is no manual control. It is usual to have a CO₂ Sensor mounted in the room with this form of control. This limits the quantity of fresh air to just that required for the occupancy of the room for increased energy efficiency. The Sensor can either be supplied as part of the Innovair unit or as part of the BMS control.

If supplied as part of the Innovair Unit see section headed 'Connection to CO₂ Sensor' for more information.

Manual adjustment of **Room temperature** is controlled by the set-point adjuster, which can be rotated between the 15°C and the 30°C settings. BMS control can also be used to remotely re-scale the minimum and maximum set point positions (e.g. 18°C min / 20°C max) for increased energy efficiency.

The unit will operate in either **Normal 'occupied' operating mode** or **'Unoccupied' set-back mode**, exactly as the Manual / Stand Alone unit does. In Unoccupied set-back mode the unit operates to satisfy the set back temperature or 'night time cooling requirement only.

Section 5. MAINTENANCE

TOOLS REQUIRED:-

7mm A/F nut spanner
Pozidrive 2pt Screwdriver

FILTER

Filters are of the 'Replaceable Cartridge Type' with cardboard frame. The filters are located behind the main access panel and retained with a metal channel (2 Screws).

A vacuum cleaner or gentle beating may be used to clean the filter. Badly impregnated filters should be replaced.

The period between cleaning is dependent on operating conditions. In a very dirty atmosphere the filter will require frequent cleaning (maybe every few weeks) whereas in a clean environment it may only be necessary every few months.

ACCESS PANEL

To remove the main access panel it is first necessary to remove the re-circulation grille. The grille and its frame are held in place by 2 off M5 hexagonal headed screws. Once the grille is removed the main access panel retaining screws, also 2 off M5 hexagonal headed screws are exposed allowing the access panel to be removed. (Refer to figure 4).

END PANELS

Each plastic end panel is located along its rear edge by a vertical channel and then secured by four M5 hexagonal head screws. Three screws at the front and one at the top rear. (refer to figure 4).

FANS & MOTORS

Providing the filter is regularly cleaned the fans and motors will require no attention. They can be accessed however by removing the re-circulation grille access panel and the main access panel. Clean using a soft brush and vacuum cleaner.

HEATING COIL

Providing the filter is regularly cleaned the heating coil will require little or no attention.

However if the filter is allowed to get very dirty some dust will percolate through and become entrained in the coil. In this case it can be cleaned by removing the front access panel, the discharge grille, the discharge access panel and the coil access panel and applying a jet of air to the air leaving face.

DAMPER AND ACTUATOR

The damper requires no maintenance, other than to brush clean occasionally.

Located on the left hand side of the unit the damper actuator requires no maintenance and should not be removed from its mounting panel.

CASING

The interior of the unit should be cleaned occasionally with a soft brush and a vacuum cleaner.

On cased units periodically check that the paint is in good condition and repair when necessary.

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