

# Concierge Fan Coil Unit Sitework Instructions



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Product Data Sheet - Applications Department,  
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## WARNING

1. **Please read this instruction booklet before any works commence.**
2. **Leave this booklet with the product so it can be read by other trades and end users, where applicable.**
3. **Ensure all Health and Safety requirements are followed and that adequate lifting equipment is used (where necessary) in the handling of this product. Please note that some products may have an offset centre of mass.**
4. **When working with the internal components of this product, the wearing of suitable anti-cut protection is recommended.**
5. **Ensure the electrical supply is isolated before working on the electrical components of this product or any remote accessory connected to this product.**
6. **This product is an electrical class II appliance and must be earthed in accordance with current ISO, EN and BS standards.**
7. **When providing the main power supply or wiring to remote items, refer to the wiring diagram supplied with this product and any manufacturer's information supplied with the remote item. Any deviation from the wiring scheme may render the product unusable and invalidate your warranty.**
8. **All remote accessories and cables intended for use with this product must be of a suitable type and current rating for the duty of the appliance.**
9. **Please refer to the table of weights and ensure that appropriate fixings (by others) are used to support the product and ensure that the building fabric is suitable to accept the same.**
10. **This product should never be operated when partially disassembled other than by a competent trades person during installation, testing and commissioning.**

## INTRODUCTION

This document is intended to guide those responsible for identifying, handling, installing and commissioning the Dunham-Bush Concierge fan coil unit. The instructions apply only to the standard unit and should be studied carefully prior to any attempt to install the unit.

## IDENTIFICATION

The fan coil unit serial number, range, model and, if specified, stencil reference are displayed on labels adhered to an internal surface of the fan coil unit. The stencil reference may also be marked on the access panel to facilitate on-site identification.

## DESCRIPTION

The Dunham-Bush Concierge fan coil unit is a waterside control, horizontally mounted fan coil unit. It comprises a basic galvanised sheet steel casing with a single mild steel front panel, finished in polyester powder coat, providing access to all serviceable items: fan/motor assemblies, air filter, dual purpose heating/cooling coil, and electrical connections box. The fan coil unit is designed for up to nine fan speed operation, with fan control provided by means of an autotransformer with fan speed and fine adjust switches.

## STANDARD RANGE MODELS & SIZES

The Dunham-Bush Concierge fan coil unit range consists of a single model only. Refer to Figure 1, Page 3.

## ACCESSORIES

The Dunham-Bush Concierge fan coil unit is available with accessories for remote operation, including remote temperature sensors, setpoint adjusters and fan speed controllers. Refer to the literature provided with each unit for details on installation, wiring and commissioning controls.

## CONSTRUCTION

### Delivery

The purchaser is responsible for off-loading and must examine the fan coil unit promptly upon receipt. Any claims for damage will only be accepted if, at the time of delivery, the details have been recorded upon the consignment note, which has then been endorsed by the transport driver. Each unit is labelled with its range, model, serial number and, if specified, stencil reference.

## CONSTRUCTION (continued)

### Spigots

The standard Concierge fan coil unit configuration comprises a rectangular discharge plenum fitted with a single rectangular spigot and a single fresh air spigot. Refer to Figure 1, Page 4. Fresh air spigots of either 100mm or 150mm nominal diameter are available. Should a fresh air spigot not be required, the aperture may be covered using a blanking plate retained with self tapping screws.

### Handling

Each fan coil unit is individually packaged and may usually be handled by 2 or 3 persons. Multiple fan coil units may be palletised and shrink wrapped and, as such, a fork lift or similar may be required for lifting. Fan coil units should neither be dropped nor subjected to any impact under any circumstances. Units should neither be lifted nor handled using their coil connections.

### Storage

Fan coil units should be stored in clean, dry conditions. Packaging should be removed prior to the unit being required for installation only if damage is suspected at the time of delivery.

### Preparation

Provision must be made for proper fixings. The ceiling or soffit must be suitable to accept fittings such as expanding anchors and drop rods.

The fan coil unit must be installed with sufficient access and clearance to permit commissioning and maintenance to be carried out. Pipework, ductwork and electrical conduit should, as far as possible, have been completed.

### Mass

The approximate dry mass of the basic Concierge model 1 fan coil unit is 65kg.

## INSTALLATION

### General

Prior to the removal of any packaging, check the reference shown on the label adhered to the access panel is that of the fan coil unit to be installed. All packaging should be retained in order to protect the fan coil unit from damage by other works subsequent to installation.

### Fitting

1. Prepare drop rods to accept the fan coil unit. Either M6 or M10 drop rods, complete with appropriate washers, are suitable. Refer to Figure 1, Page 3 for fixing positions.
2. With the unit in the horizontal position, open it by turning the fasteners in the front plate using the key provided and swinging the front plate into the open position. The front plate must be supported whilst being dropped down until it is in the fully open position. Closing is the reverse of opening.

3. Suspend the fan coil unit from the drop rods. Use a spirit level to ensure the chassis, and not the drip tray as it is inclined to ensure condensate drainage, is horizontal in both directions.
4. Connect the ductwork to the fan coil unit. Do not under any circumstances suspend ductwork from the fan coil unit alone. Refer to Figure 1, Page 4 for spigot positions.
5. Connect the pipework to the fan coil unit. Refer to Figure 1, Page 4 for coil connection positions.
6. Connect a suitable drain to the fan coil unit. Refer to Figure 1, Page 4 for drain connection position.
7. Connect the electrical supply and any controls accessories as shown on the wiring diagram included with the fan coil unit.
8. After filling the hot and chilled water systems, pressure test the system and unit. Refer to Commissioning Section, Page 3.

### Pipework Connections

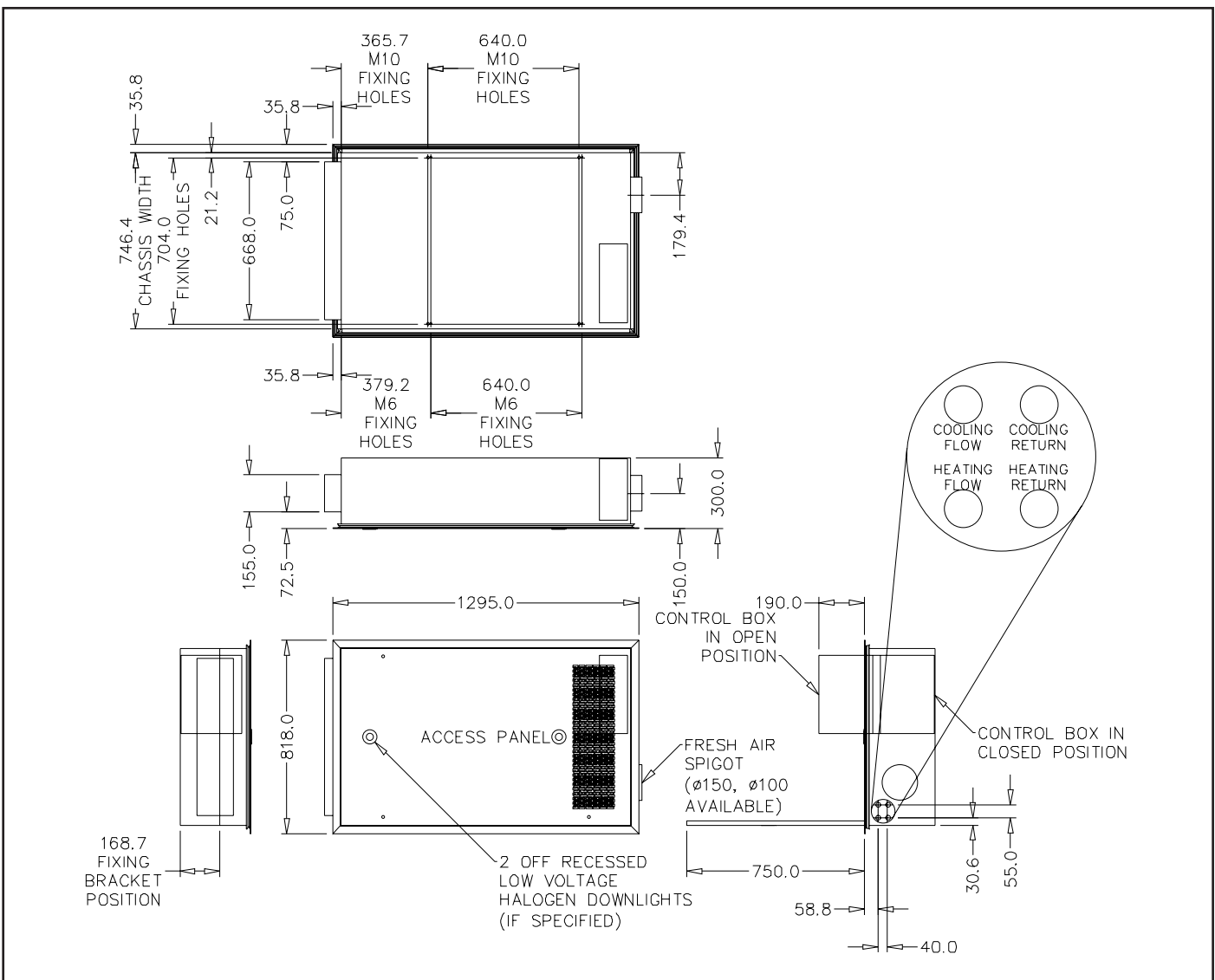
1. Both the heating and cooling sections of the coil have 15mm OD plain copper connections, especially when control valves are fitted. Always observe the correct direction of flow. Refer to Figure 1, Page 4 for flow and return connections.
2. Local isolating and regulating valves and strainers, to remove foreign particles from the water, are recommended.
3. The installer must provide any fittings required to connect the pipework to the coil connections.
4. The drip tray has a 22mm OD plain stainless steel connection, suitable for a compression fitting or similar, again to be supplied by the installer.
5. Gravity drains must be graded & fall away from the unit.

### Electrical Connections and Controls

1. The control enclosure is located inside the fan coil unit adjacent to the filter and fresh air spigot, if fitted. When the access panel is open, the controls may be accessed by turning the retained quarter turn, quick release fasteners that hold the enclosure lid place, allowing it to drop down. The lid must be supported whilst being dropped down until it is in the fully open position. Closing is the reverse of opening.
2. Connect a 230V/1ph/50Hz supply to the flying lead that is fitted to the control enclosure.
3. Install any remote accessories in suitable locations and connect the wiring from them to the terminal block inside the control enclosure as per the wiring diagram provided with the fan coil unit.
4. All wiring should comply with the current IEE regulations (BS 7671) and local byelaws.

Design Speed (V)	Transformer Tapping Range	Fan Speed Switch Position	Fine Adjust Switch Position
70	Extra Low	I	I
80	Extra Low	I	II
90	Extra Low	I	III
100	Extra Low	II	I
110	Extra Low	II	II
120	Extra Low	II	III
130	Low	II	I
140	Low	II	II
150	Low	II	III
160	Medium	II	I
170	Medium	II	II
180	Medium	II	III
190	High	II	I
200	High	II	II
210	High	II	III
220	High	III	II
230	High	III	III

Table 3: Fan Speed and Fine Adjust switch positions



Frame 1 : Standard model

## COMMISSIONING

1. Ensure the fan coil unit, particularly the filter, is clean and free from dust. Check the ductwork connections and access panel are secure.
2. Ensure all electrical connections comply with IEE regulations and local byelaws. Refer to the wiring diagram provided with the fan coil unit.
3. Pressure test the connections to the coil and the drip tray for any leaks. Refer to Table 1 below for maximum test pressures and working pressures for both sections of the coil.
4. Purge air from both cooling and heating section of the coil using the fitted manual air vents.
5. Balance the water flow rate through both the hot and chilled water systems following accepted practices to achieve the specified flow rates.
6. There are two 3 position switches, namely the Fan Speed switch and the Fine Adjust switch, which together provide a range of nine fan speeds at nominal voltage increments of 10V. Unless specified, the design speed will be set to Fan Speed switch position 2. At the extremes of the available voltage range it may be necessary to set the design speed to either Fan Speed switch position 1 or 3. Refer to table 3, Page 5 for the Fan Speed and Fine Adjust switch positions for specific design speeds.
7. Ensure the air volume flow rate and external resistance are both as specified in the design. Adjust the fan speed if necessary using the Fan Speed and Fine Adjust switches.
8. If fitted, set the controls to the specified settings; refer to the control manufacturer's literature supplied with the fan coil unit.
9. Check the operation of the controls in accordance with the control manufacturer's instructions.
10. Check the operation of any remote controls in accordance with the control manufacturer's instructions.
11. Check the functionality of the condensate pump or drainage from the drip tray, by pouring clean water into the drip tray.
12. Leave this document, the wiring diagram(s) and End User instructions with the end user.

**For further information on any fan coil unit, contact Dunham-Bush, quoting the serial number on the label adhered to the discharge plenum.**

Coil Section	Cooling	Heating
<b>Maximum Cold Test Pressure (bar gauge)</b>	20	20
<b>Maximum Recommended Working Pressure (bar gauge)</b>	7	7

Table 1: Maximum coil pressures

N.B. Air vents should not be operated during pressure tests. Recommended maximum working pressure limited to 7 bar gauge in order to ensure safe operation of manual vents.

Model	Cooling Section Capacity (litres)	heating Section Capacity (litres)
1	1.53	0.18

Table 2: Coil capacity