

Lynx Fan Coil Unit Sitework Instructions

Fan Coil Unit Department - Product Data Sheet
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DUNHAM-BUSH®

PDS-1200-F-0241-01

Part Number: 131-000-001

Date: October, 2003

INTRODUCTION

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

IDENTIFICATION

The fan coil unit serial number, range, and model are all displayed on a label adhered to the discharge plenum. If specified, a stencil reference may also be marked on the discharge plenum to facilitate on-site identification.

DESCRIPTION

The Dunham-Bush Lynx is a waterside control, horizontally mounted fan coil unit. It comprises of a galvanised sheet steel chassis with access panels to all serviceable components, including; fan assemblies, filter(s), drip tray, dual purpose heating and cooling coil, and controls. The unit incorporates one or two tapped wound motors, the speed of which is controlled by a 3 position switch.

STANDARD RANGE MODELS

The Dunham-Bush Lynx fan coil unit range consists of 7 models. Refer to Figure 1, Page 4.

ACCESSORIES

The Dunham-Bush Lynx fan coil unit is available with accessories that enable remote operation, which include room temperature sensors, remote setpoint adjusters, and remote fan speed controllers. Refer to the literature provided with each unit for details on installation, wiring & 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 on 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.

Discharge Spigots

The standard Lynx fan coil unit configuration comprises an rectangular discharge plenum fitted with up to 6 spigots, depending on the model under consideration. Refer to Figure 3, Page 5. Spigots up to Ø250mm may be fitted and either removed or repositioned to suit duct connections on site. Spigot apertures that are not required may be covered using blanking plates, one of which is supplied with each unit. Blanking plates are fitted using self-tapping screws.

Handling and Storage

Each fan coil unit is individually packaged and the largest unit may usually be handled by 2 or 3 persons. Significant quantities of 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 never be lifted or handled using their coil connections.

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.

Warning

The Lynx fan coil unit is designed with minimal sharp edges on the chassis. Some internal components may have sharp edges and, as such, care must be taken when handling the product and protective gloves should be worn.

Model	1	2	3	4	5	6	7
Dry Mass of Basic Unit (kg)	31	47	50	63	70	82	85

Table 1: Approximate masses of Lynx fan coil unit range.

INSTALLATION

General

Prior to the removal of any packaging, check the reference shown on the label adhered to the discharge plenum 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 4 for fixing positions.
- 2) 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.
- 3) Connect the ductwork to the fan coil unit. Flexible duct connections are recommended where sheet metal ductwork is used. Do not under any circumstances suspend ductwork from the fan coil unit alone. Refer to Figure 3, Page 5 for spigot positions.
- 4) Connect the pipework to the fan coil unit. Refer to Figure 2, Page 4 for coil tail positions.
- 5) Connect a suitable drain to the fan coil unit. Refer to Figure 2, Page 4 for drip tray tail position.
- 6) Connect the electrical supply and any controls accessories as shown in the wiring diagram included with the fan coil unit.

- 7) After filling the hot and chilled water systems, check for any leaks. Refer to Commissioning Section, Page 3.

Pipework Connections

- 1) Both the heating and cooling sections of the coil have 15mm OD copper tube tails. Always observe the correct direction of flow. Refer to Figure 2, 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 stainless steel connection, suitable for a compression fitting or similar, again to be supplied by the installer.

Electrical Connections and Controls

- 1) The controls box is located on the side of the fan coil unit. Access is via a hinged lid, fastened with a single self-tapping screw.
- 2) The flying lead that terminates with an IEC fused main inlet socket is to be connected to a 230V/1ph/50Hz supply.
- 3) Install any remote accessories in suitable locations and connect the wiring from them to the terminal block inside the controls box as per the provided wiring diagram.
- 4) All wiring should comply with the current IEE regulations (BS 7671) and local byelaws.

COMMISSIONING

- 1) Ensure the fan coil unit, particularly the filter, is clean and free from dust. Check the access panel and ductwork connections are secure.
- 2) Ensure all electrical connections comply with IEE regulations and local byelaws. Refer to the wiring diagram included with the fan coil unit.
- 3) Check the connections to the coil and the drip tray for any leaks. Refer to Table 2 below for maximum test pressures and working pressures for both sections of the coil.
- 4) Purge air from both the 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 is a single switch to provide control of three fan speeds. Unless specified, the design speed tapping will be set as speed switch position 2, except when tapings 1 or 5 are specified, when the design speed will be at switch positions 1 and 3 respectively. See table 4.
- 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 switch.
- 8) If fitted, set controls to the specified settings; refer to controls manufacture literature supplied with the unit.
- 9) Check the operation of the controls in accordance with the control manufacturer's instructions.
- 10) Check the operation of any remote controls.
- 11) If fitted, check the functionality of the condensate pump 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
Maximum Test Pressure (bar gauge)	20	20
Maximum Recommended Working Pressure (bar gauge)	7	7

Table 2: Maximum coil pressures.

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

Model	1	2	3	4	5	6	7
Cooling coil volumetric capacity (litres)	1.51	2.01	2.01	3.27	3.27	4.03	4.03
Heating coil volumetric capacity (litres)	0.20	0.28	0.28	0.40	0.40	0.51	0.51

Table 3: Coil volumetric capacity.

Design Fan Speed Tapping	1	2	3	4	5
Design Fan Speed Switch Position	1	2	2	2	3

Table 4: Design fan speed switch positions.

MODEL	DIMENSION 'A'	DIMENSION 'B'	NO. OF SPIGOTS
1	675.0	648.0	3
2	1075.0	1048.0	4
3	1075.0	1048.0	4
4	1475.0	1448.0	5
5	1475.0	1448.0	5
6	1875.0	1848.0	6
7	1875.0	1848.0	6

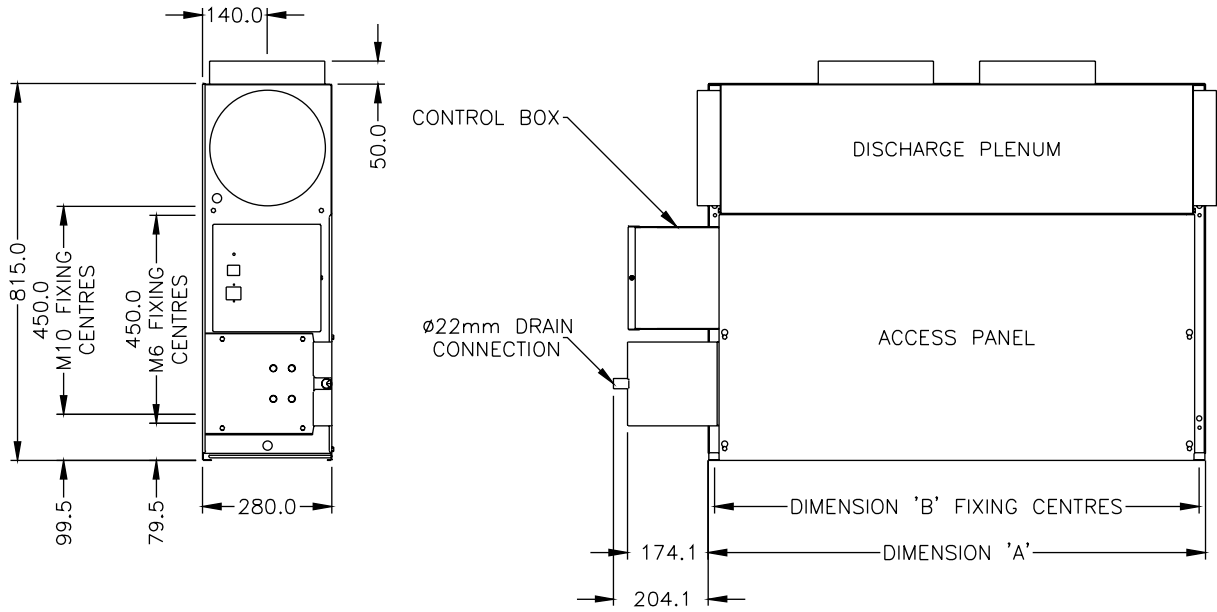


Figure 1: Standard range models.

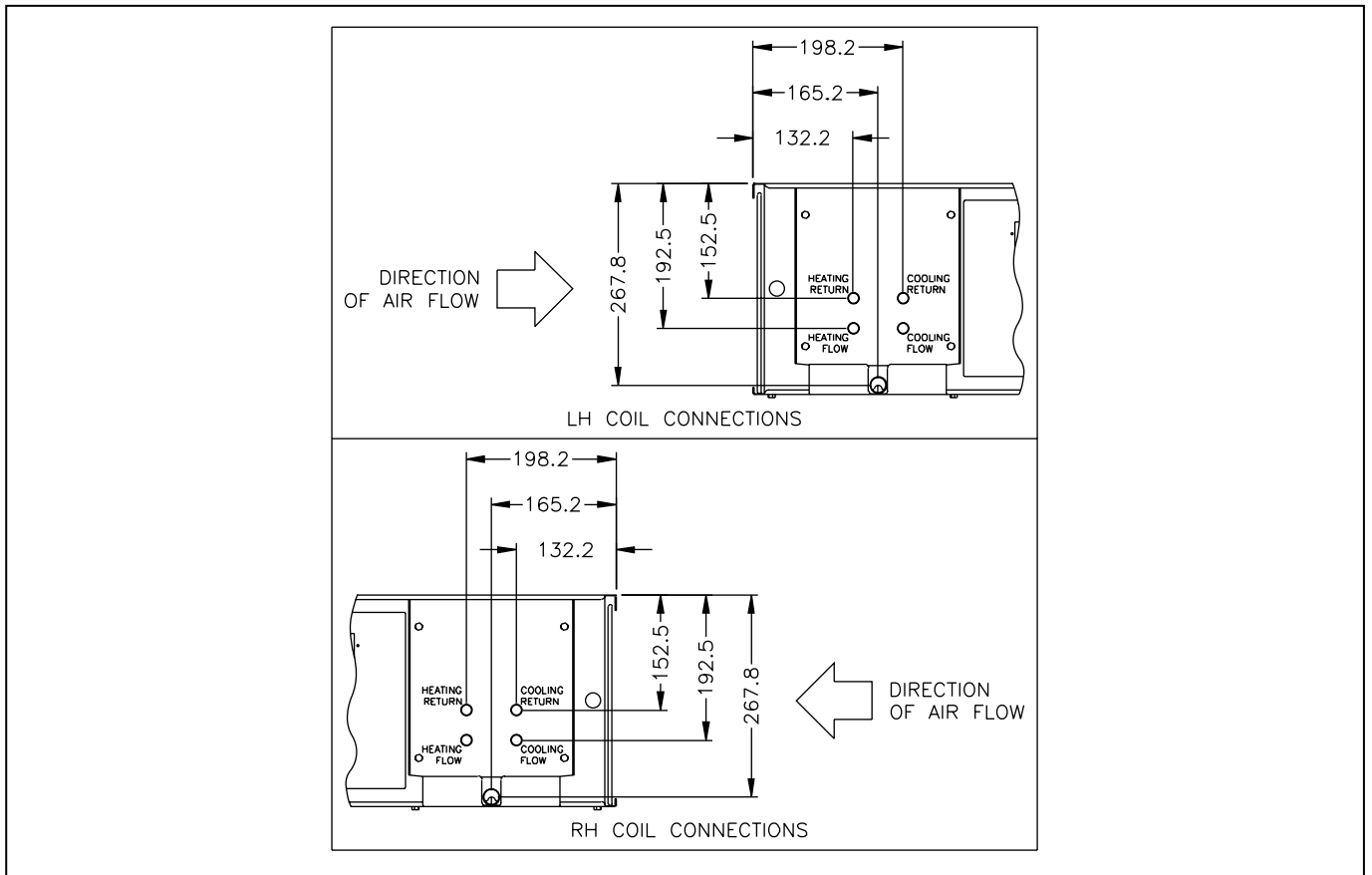
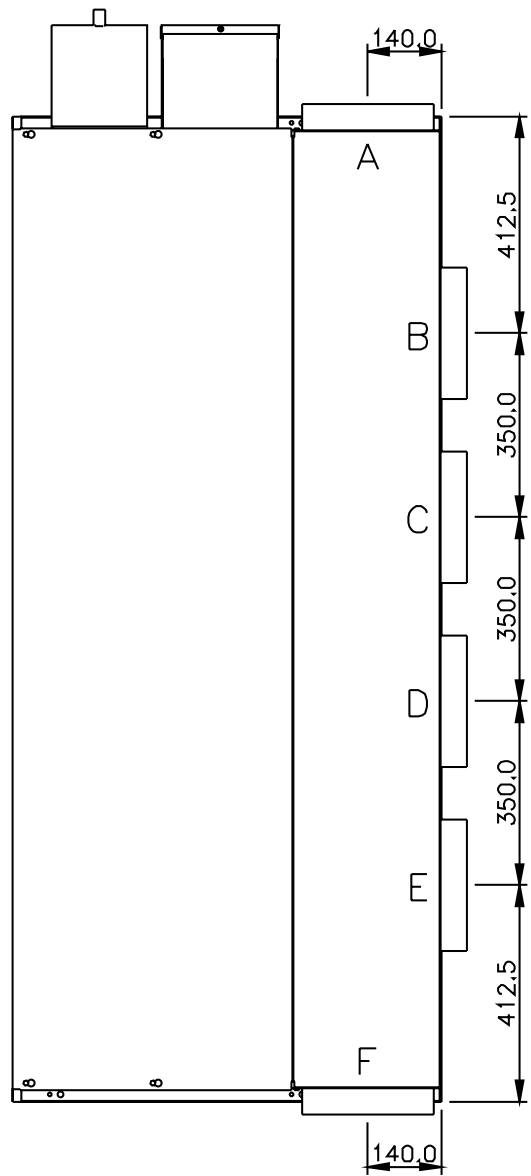
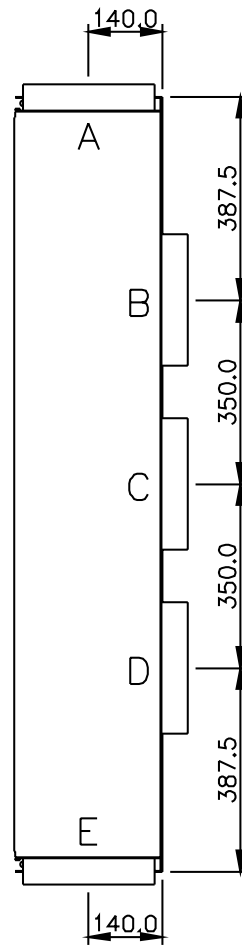


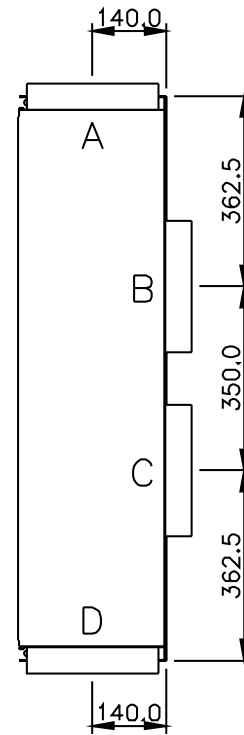
Figure 2: Pipework connections.



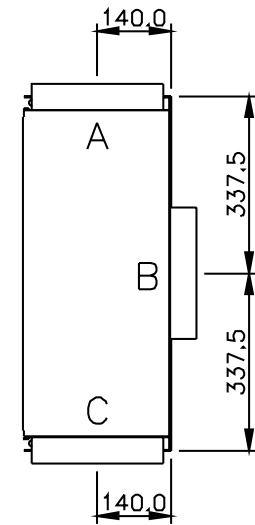
MODEL 06
MODEL 07



MODEL 04
MODEL 05



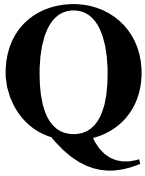
MODEL 02
MODEL 03



MODEL 01

STANDARD SPIGOT DIAMETERS	
	250
	225
	200
	180
	160
	150

Figure 3: Standard spigot sizes and positions.



QUALITY

Dunham-Bush operates a quality control system and is a registered company of assessed capability to BS EN ISO 9001:2000

What ever the product, wherever its eventual destination, Dunham-Bush design and manufacturing policy has always been firmly based on technical quality.

PRODUCTS

Series AM fan convectors
Series BM fan convectors
Series CM fan convectors
Series L fan convectors

Series F fan coil units
Cougar fan coil units
Jaguar fan coil units
Leopard fan coil units
Lynx fan coil units
Panther fan coil units
Puma fan coil units

Dunham Strip radiant heating
Evolution radiant panels
Evo-Lite radiant panels

Voidpak air handling units
Finvector perimeter heating
Hydrocourse trench heating
WarmSAFE LST radiators
Series UH unit heaters

Sentry air curtains
Gas fired heating



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The manufacturer reserves the right to amend any product specification without notice.

*PDS-1200-F-0241-01
Part Number: 131-000-001
September 2003*