

Series CM Fan Convectors

Instructions/Recomendations to Users



PDS-1200-H-0221-03

Part No. 321-000-002

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Product Data Sheet - Applications Department,
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INSTALLER

Please leave these instructions and access panel keys with the user.

INTRODUCTION

The following instructions/recommendations will ensure the best possible service from Dunham-Bush series CM fan convectors.

IDENTIFICATION

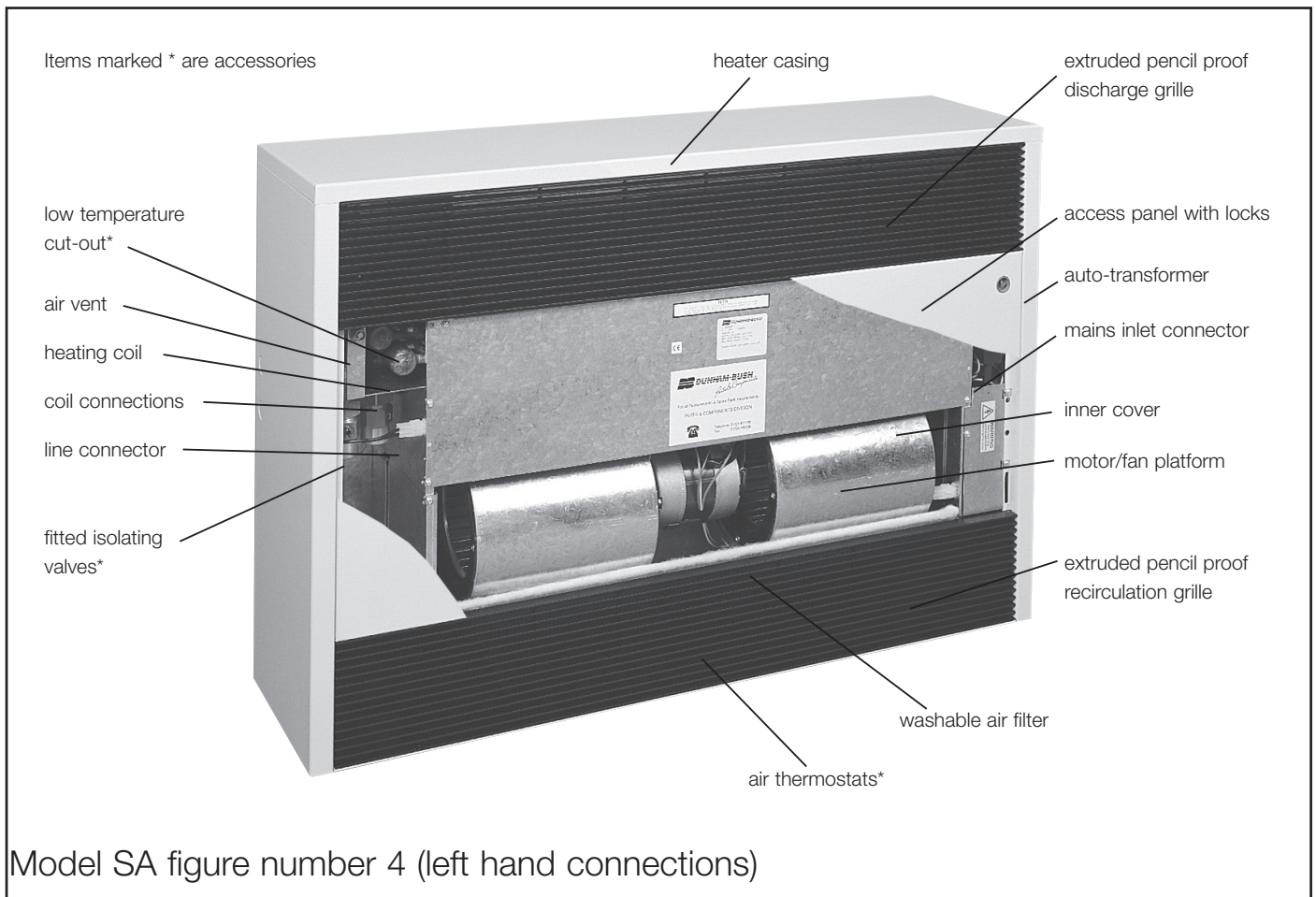
The fan convector heater serial number, model and figure number (size) are displayed on the heater name plate, located on the inner cover, behind the access panel. If identification references were given to us when the heaters were ordered, they will have been marked on the heater cartons and the delivery note, for site identification.

DESCRIPTION

Each series CM fan convector heater comprises a free standing sheet metal casing fitted with extruded aluminium alloy pencil proof recirculation and discharge grilles, and lockable access panel. The casing contains a fan/motor platform, auto transformer, air filter and hot water heating coil. Series CM fan convectors are 600mm high x 230mm wide. Nominal lengths are 700mm, 900mm, 1200mm and 1500mm.

Heaters are supplied for single or dual fan speed operation. Single speed are set to low, medium or high speed. Dual speed are set to low/medium or medium/high. Fan control is by means of switches and or air thermostats, depending upon the accessories specified.

COMPOSITION - FEATURES



RANGE

The range consists of two models.

Model SA standard air flow, bottom front recirculation and top front discharge.

Model RA reversed air flow, top front recirculation and bottom front discharge.

Both model are offered in a range figure numbers which relate to the output and length, as shown below.

Figure number	Nominal output (kW)	Casing length (mm)
3	2.6	695
4	4.7	895
6	6.0	895
8	8.2	1195
10	9.4	1195
12	11.4	1495
15	12.7	1495

Method of operation and control

Series CM fan convector heaters provide warm air heating when used in conjunction with a low temperature hot water (LTHW) system.

When the system is operational and the electrical supply is connected, the fan motor will operate, providing any controls, such as air thermostats, low limit thermostat and switches are closed circuit.

ACCESSORIES

Air thermostats

Air thermostats can be provided to automatically switch the fan motor on/off and to change speed, in response to a fall or rise in ambient air temperature.

Fitted air thermostats - Model SA only

Capillary thermostats can be fitted for on/off and speed change.

Remote thermostats

Standard or tamper resistant room thermostats can be provided for on/off and speed change.

Low-limit thermostat

A low limit thermostat can be provided to prevent the fan motor operating until the heating water temperature is hot enough for the heater to work efficiently. This thermostat will automatically stop the heater at the end of the normal operating period, when the boiler plant closes down.

Type 1 fixed setting low limit thermostat, break circuit $43^{\circ}\text{C}\pm 3\text{K}$, make circuit $54^{\circ}\text{C}\pm 3\text{K}$.

If fitted, type 1 is wired into the control circuit and clamped to the coil tube nearest to the LTHW flow connection.

Type 2 adjustable setting low limit thermostat, range 30°C to 90°C .

If fitted, type 2 is wired into the control circuit and clamped to the coil tube nearest to the LTHW flow connection.

Switches

Fitted external or remote switches can be provided to switch the fan motor on/off, to change speed and to override thermostats.

Fitted switches

Fitted switches or remote switches can be provided to switch the fan motor on/off, to change speed and to override thermostats.

Fitted or remote switches (flush or surface mounted)

1) on/off, 2) high/off/low, 3) manual/off/auto,

4) manual/off/auto and high/low

Plinth

A plinth, finished black powder coated paint, can be fitted to raise the heater 100mm above FFL.

Fitted isolating valves

DN20($\frac{3}{4}$ BSP.) isolating ball valves can be provided, fitted within the casing of model SA only.

CLEANING AND MAINTENANCE

Cleaning and maintenance should be undertaken by a competent person.

WARNING

Prior to undertaking any cleaning or maintenance, ensure that the heater and any controls are disconnected from the electrical supply at the local isolator. Remove the mains inlet plug inside the heater.

Some internal components may have sharp edges.

Care must be taken when installing this product and it is recommended that protective gloves are worn.

Inspection

It is not possible to state how often units should be cleaned as this depends on the conditions under which they operate. Initially it is suggested that the filters should be inspected and if necessary cleaned at 6-8 week intervals. Cleaning the air filter will ensure that the full air volume flow rate and heat output is maintained. We do not recommend heaters are operated without filters since the heater coil fins will eventually become clogged with fluff and dust particles resulting in reduced performance.

To gain access to the air filter, unlock the access panel on the front of the heater with the special key provided, pull out at the top and lift clear.

CLEANING

1. Air filter
The interfila T15/155NG or equal air filter media is washable but will need replacing after approximately twenty re-generations.

Do not use a vacuum cleaner as it can damage the filter media.

To clean the filter proceed as follows:

- a) Remove the filter
 - b) Tap out any excess dust etc.
 - c) Clean the filter by washing in warm water up to 40°C, adding detergent if necessary.
 - d) Rinse with clean water and allow to dry naturally.
2. Motor, fans and casing.

Because the filter retains most of the larger particles of foreign matter, it will usually only be necessary to clean the motor, fan and heater casing annually.

To remove the motor/fan platform, remove the access panel, inner cover, filter and recirculation grille. Disconnect the line connector and withdraw the motor/fan platform by sliding out.

The inside of the heater can now be cleaned with a industrial vacuum cleaner, paying particular attention to the heating coil, sucking air through the coil in the opposite direction to the normal air flow.

MAINTENANCE

1. Coil - purge air from the coil using an air vent key on the manual air vent or by turning the knurled head on the automatic air vent. The automatic air vent has a built in check valve which allows the head to be removed so that the swelling discs and seal can, if necessary, be replaced without draining down.
2. Motors have 'sealed for life' bearings which do not require any maintenance.
3. The mains inlet socket is fitted with a 2 amp slow blow fuse. If the unit is inoperable, check the fuse and replace if necessary. A spare fuse is supplied in the slide-out fuse holder.
4. Controls - see accessories.
A dedicated wiring diagram is supplied with each heater. Further copies are available on request, please quote the serial number from the heater nameplate located on the inner cover.

5. Check the operation of all controls.

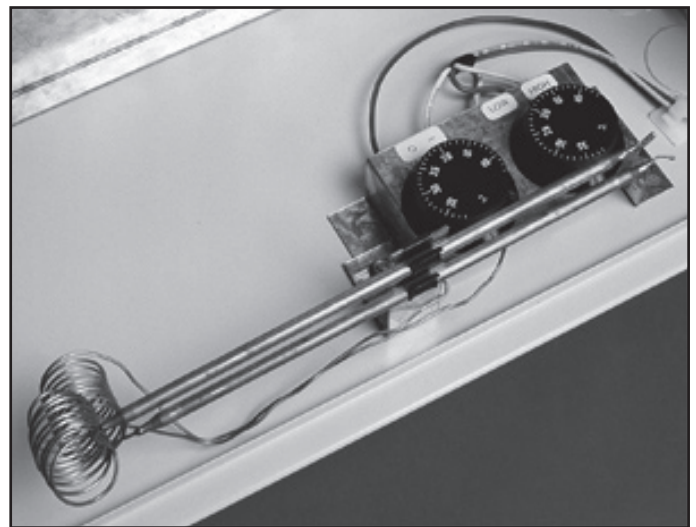
Please note:

a) If a low limit thermostat type 1 is fitted the fan will not operate unless the surface temperature at the position where the LTC is clamped reaches the thermostat temperature setting (approx. 54°C +/- 3K for the fixed setting low limit thermostat or between 30°C and 90°C for the adjustable low limit thermostat). The fan motor will operate if a temporary link is fitted.

The setting of an adjustable low limit thermostat will depend upon the system design conditions but for normal LTHW system, 55°C is usually acceptable.

b) If thermostats are fitted, or wall mounted thermostats are being used, check the temperature settings suit the user requirements. Typical settings are : on/off thermostat 20°C, speed change thermostat 16°C. Check operation of all thermostats.

c) If fitted or remote switches are being used, check that they operate correctly. Note: if manual/off/auto switch is provided, all thermostats are by-passed in the manual position, which allows the fans to circulate room air when the boiler plant is shut down during the summer months.



Fitted on/off and high/low thermostats



Type 1 LTC and manual air vent

SPARE PARTS

Always quote the heater serial number, model and figure number (shown on the label, positioned on the inner cover), when ordering spare parts.

Most major items such as motors, capacitors, fans, auto-transformers and heating coils are usually available from stock. Please contact our Spare Parts Dept.



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Manufacturer reserves the right to change any product specification without notice

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