INTRODUCTION
This booklet provides guidance to identify, handle, install and commission Dunham-Bush Sentinel door curtains. The instructions apply to models from the standard range of standard models only. Please study the instructions carefully before commencing any installation work.

IDENTIFICATION
The door curtain model description is displayed on a label found inside the unit casing.
If specified, a stencil reference may also be marked inside the unit casing for on-site identification.

RANGE OF STANDARD MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Overall Length (mm)</th>
<th>Heating Option</th>
<th>Nominal Duty (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>270-A-10</td>
<td>1113</td>
<td>Ambient</td>
<td>N/A</td>
</tr>
<tr>
<td>270-A-15</td>
<td>1621</td>
<td>Ambient</td>
<td>N/A</td>
</tr>
<tr>
<td>270-A-20</td>
<td>2121</td>
<td>Ambient</td>
<td>N/A</td>
</tr>
<tr>
<td>270-E-10</td>
<td>1113</td>
<td>Electric</td>
<td>9.0</td>
</tr>
<tr>
<td>270-E-15</td>
<td>1621</td>
<td>Electric</td>
<td>13.5</td>
</tr>
<tr>
<td>270-E-20</td>
<td>2121</td>
<td>Electric</td>
<td>18.0</td>
</tr>
<tr>
<td>270-W-10</td>
<td>1113</td>
<td>LPHW</td>
<td>9.5</td>
</tr>
<tr>
<td>270-W-15</td>
<td>1621</td>
<td>LPHW</td>
<td>14.1</td>
</tr>
<tr>
<td>270-W-20</td>
<td>2121</td>
<td>LPHW</td>
<td>22.6</td>
</tr>
</tbody>
</table>

Table 1: Nominal outputs for LPHW option are based on LTHW 80/70°C, entering air at 18°C.

Note: All model 270 Sentinel door curtains are suitable for doorway heights between 1800mm and 2700mm.

WARNING
This appliance should be used by persons who are adequately trained and/or supervised.
This door curtain is not equipped with a device to control the room temperature. Do not use this door curtain in rooms occupied by persons not capable of leaving the room on their own.
CONTROLS/ACCESSORIES

The following controls/accessories are supplied as standard with the Sentinel door curtain. A wiring diagram is enclosed with these instructions and should be studied prior to installation.

Remote Switches
On/off switch and high/low fan speed adjustment switch supplied as standard on all units. On 3 phase electric heating models the high/low switch automatically selects the full and ½ power heating settings. These are supplied loose for on-site fitting, remote wiring not supplied by Dunham Bush.

Electric Heating Element
Electric heating element units incorporate two thermal switches. One thermal switch provides the fan overrun. The fan will continue to run after the unit is switched off until the air temperature in the casing drops below 50°C. The other manual reset thermal switch provides the safety cut out. If the air temperature in the casing rises above 60°C this will cause the safety cut out to trip. The safety cut out can be reset by pressing the red button located on top of the unit. If the safety cut out trips regularly; check the operation of the fan and that the airflow through the unit is not restricted by dust and the inlet or outlet are not obstructed. If the problem persists please contact Dunham-Bush.

Wall Hanging Bracket
All models come complete with a hanging plate for vertical wall surface mounting.
Table 2: All dimensions in millimetres

<table>
<thead>
<tr>
<th>Figure Number</th>
<th>Dimension A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1113</td>
</tr>
<tr>
<td>15</td>
<td>1621</td>
</tr>
<tr>
<td>20</td>
<td>2121</td>
</tr>
</tbody>
</table>

Diagram 6: Dimensions of Model 270 Sentinel door curtain
Diagram 7: Hanging bracket dimensions

<table>
<thead>
<tr>
<th>Figure Number</th>
<th>Dimension A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>787</td>
</tr>
<tr>
<td>15</td>
<td>1295</td>
</tr>
<tr>
<td>20</td>
<td>1795</td>
</tr>
</tbody>
</table>

Table 3: All dimensions in millimetres. M6 bracket wall fixings not included

CONSTRUCTION

Handling and Storage
Door curtains and accessories are individually packaged in cardboard cartons, two/three persons can usually handle the heaviest door curtain. When a significant quantity of door curtains are delivered, they may be palletised and shrink-wrapped, so a fork-lift or similar will be required for lifting. The door curtain(s) must not be dropped or suffer impact in any circumstances.

Storage
Door curtains should be stored in clean, dry conditions. Any packaging should not be removed until the door curtain is required for installation. Packaging should only be removed if damage is suspected at the time of delivery.

⚠️ WARNING
Some components on the door curtain may have sharp edges. Care must be taken when handling the product and protective gloves should be worn.

Preparation
Provision must be made for proper fixings. The ceiling or soffit must be suitable to accept fixings such as expanding anchors and/or drop rods, loads given in table 4.

Access is required for maintenance i.e. pipe and electrical connections and removal of door curtain outer casing.

Piping and electrical conduit should, as far as possible, have been completed.

Approximate dry masses

<table>
<thead>
<tr>
<th>Model</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>270-A-10</td>
<td>16.4</td>
</tr>
<tr>
<td>270-A-15</td>
<td>19.8</td>
</tr>
<tr>
<td>270-A-20</td>
<td>24.6</td>
</tr>
<tr>
<td>270-E-10</td>
<td>19.6</td>
</tr>
<tr>
<td>270-E-15</td>
<td>25.4</td>
</tr>
<tr>
<td>270-E-20</td>
<td>31.9</td>
</tr>
<tr>
<td>270-W-10</td>
<td>19.9</td>
</tr>
<tr>
<td>270-W-15</td>
<td>24.4</td>
</tr>
<tr>
<td>270-W-20</td>
<td>30.4</td>
</tr>
</tbody>
</table>

Table 4: Approximate dry masses of Sentinel door curtain
INSTALLATION

General

Before removing any packaging, check the identity of the heater against the model reference. Packaging should be retained to protect the heater from damage by other works after installation.

To gain access to the electrical connections / LPHW coil / electric heating elements, remove the return air grille by undoing the screws and unhooking it from the fixing tabs on top of the unit, see page 5, Diagram 8.

Fitting

1. Position and fix the air curtain.
   a. Use hanging bracket provided, refer to page 6, Diagram 9 for wall mounted installation. (refer to page 4, Diagram 7 for bracket dimensions) M6 fixings not supplied.
   b. Alternatively, suspend door curtain from drop rods, refer to page 7, Diagram 10 for ceiling suspended installation. M6 fixings not supplied.

2. The discharge grille should be installed as close as possible to the top of the doorway opening to ensure minimal air leakage around the door curtain. It is recommended that the door curtain is wider than the doorway by a minimum of 100mm on both sides.

3. For correct installation and operation, observe minimum spacing to wall and soffit surface shown page 6, Diagram 9 for wall mounted installation, or, page 7, Diagram 10 for ceiling suspended installation.

4. Position of the LPHW and/or power supply connections are to be taken into consideration during installation, refer to page 8, Diagram 11. Both can be adapted on site to suit installation.

5. LPHW models - Connect pipework, refer to page 8, Diagram 11, observe the correct flow and return connections.

6. Connect electrical supply and remote control accessories, refer to page 8, see specific diagram depending on model supplied. Wiring diagrams shown on page 10. Identify unit model reference when referring to wiring diagrams.

7. LPHW models - After filling the hot water system, check door curtain for leaks.

8. Refit all components previously removed.

LPHW models
Coil connections are DN20 (3/4" BSP) female parallel. Local isolating and regulating valves are recommended. Refer to page 8, Diagram 11 for correct flow and return connections. *All Sentinel door curtains are supplied with left hand LPHW connections* (when facing door curtain return air grille). LPHW coil can be reversed on site to suit installation, refer to page 9, Diagram 12 for coil reversal instructions.

Ambient / LPHW models
Remove door curtain return air grille to expose electrical connections. Ambient/LPHW models require a 230V/1Ø/50Hz electrical supply. Refer to page 10, Diagram 13 for specific wiring details. A Ø20mm knockout is provided on the right side of the door curtain above the motor/electrical connection enclosure, refer to page 8, Diagram 11.

Electric heating models
Remove door curtain return air grille to expose electrical connections. Electric heating models require a 400V/3Ø/50Hz TP&N electrical supply. Two Ø25mm holes are provided on both sides of the door curtain, with a cable channel located above the discharge grille, allowing electrical connections to be left or right handed to suit installation, refer to page 8, Diagram 12.

Cable stain relief is recommended e.g. with proprietary cable glands.

NOTE:
Electric heating units should normally be enabled and disabled via the switch supplied with the unit as this allows for fan overrun to operate. Cutting the main supply (although not damaging) will cause the safety cut out to trip due to the residual heat in the casing.
Diagram 9: Wall mounted installation
View from side, mounting distances

110mm minimum electric heating
70mm minimum ambient/LPHW

M6 stud fixings (supplied by others)

M6 Threaded inserts in top of casing
Recommend fitting M6 (by others) nut to lock studding into threaded insert.

Tabs to be folded out on site

View from above, electrical/pipework connections

Diagram 10: Ceiling suspended installation

<table>
<thead>
<tr>
<th>Figure Number</th>
<th>Dimension A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>823</td>
</tr>
<tr>
<td>15</td>
<td>1331</td>
</tr>
<tr>
<td>20</td>
<td>1831</td>
</tr>
</tbody>
</table>

Table 5: All dimensions in millimetres
Diagram 11: LPHW / Ambient model – Pipework/electrical connections (figure 10 illustrated)
Note: Ambient models do not include an LPHW coil.

View from above, electrical/pipework connections

Flow Return
(¾in BSP parallel female thread connections) Blanking plate Ø20mm knockout to accept electrical connections

Strain relief should be used to protect electrical connections

Diagram 12a & 12b: Electric heating model – Electrical connections (figure 10 illustrated)

View from above, electrical connections

Safety cut-out manual reset switch

2 of Ø25 holes to accept electrical connections

View from below, air supply/discharge grille

Strain relief should be used to protect electrical connections

Electrical cable containment channel
COIL REVERSAL INSTRUCTIONS FOR LPHW MODELS

A. Remove return air grille

B. Remove LPHW coil and blanking plate

C. Rotate coil, replace fixings and reposition blanking plate. Replace return air grille.

Diagram 13: LPHW coil connection reversal (Model 270-W-10 illustrated)
REFER TO
WIRING DIAGRAM
ENCLOSED WITH UNIT

Diagram 14: Standard wiring Diagram – Ambient / LPHW models

REFER TO
WIRING DIAGRAM
ENCLOSED WITH UNIT

Diagram 15: Standard wiring Diagram – Electric heating models
Declaration of Conformity

We, Dunham-Bush Ltd. of Downley Road, Havant, Hampshire, England, PO9 2JD, hereby declare conformity of the ‘Sentinel’ door curtain product with the following European Union Directives:

The Low Voltage Directive 2006/95/EC.
The Energy Related Products Directive 2009/125/EC

In addition, we declare that the ‘Sentinel’ door curtain product complies with the following standards:

EN 61000-6-3:2007 Electromagnetic Compatibility - generic emission standard
EN 61000-6-1:2007 Electromagnetic Compatibility - generic immunity standard
EN61000-3-2:2006 Electromagnetic Compatibility – Harmonic emissions
EN 60 335-1:2002 A14:2010 Household and Similar Electrical Appliances. Safety General Requirements

For and on behalf of Dunham-Bush Ltd.

David Shuttleworth B.Sc., C.Eng. MCIBSE.
Technical Director

Date 11/12/2
COMMISSIONING

LPHW models – Purge air from the coil through the heating pipe work above the coil. Balance the water flow rate through the whole system to accepted practice to achieve the specified flow rate required.

Check remote on/off and fan speed switches for satisfactory operation. (Electric heating models also incorporate a high/off/low electric element switch).

Electric heating models – check safety cut-out manual reset switch (located top of casing) for satisfactory operation.

MAINTENANCE

⚠️ WARNING

Maintenance should be undertaken by qualified personnel only.

Prior to undertaking any maintenance, ensure that all electrical supplies are disconnected from the air curtain via local isolators.

Some internal components may have sharp edges. Care must be taken when servicing this product and it is recommended that protective gloves are worn.

A visual inspection of the unit and its internal components should be carried out once every 6 months.

Coil – (LPHW models only) Visual inspection of coil. Purge any air from the coil through the heating pipe work above the coil. If required the coil may be vacuumed clean using a soft bush attachment taking care not to damage the aluminium fins.

Electric elements – (Electric heating models only) The elements do not require any maintenance, other than a visual inspection, however when cool they may be vacuumed clean to remove dust using a soft bush attachment.

Spare parts/service – Please contact our office, contact information shown below.

Manufacturer reserves the right to change any product specification without notice.

<table>
<thead>
<tr>
<th>Cold test pressure (bar g)</th>
<th>Working pressure (bar g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.0</td>
<td>12.0</td>
</tr>
</tbody>
</table>

Table 6: Site Test and Working Pressures (maximum flow temperature 110°C)

Fuse – The mains inlet connector incorporates a 5A fuse which does not require any maintenance, other than a visual inspection. Replace with a fuse of the same type and value.

Fan motor – The fan motor has a ‘seal for life’ bearing which does not require any maintenance, other than a visual inspection however they may be vacuumed clean to remove dust using a soft bush attachment. All accessible surfaces can be wiped with a dry cloth.

Controls – Check remote on/off and speed switches for satisfactory operation. (Electric heating models also incorporate a high/off/low electric element switch).

Check fan run on and safety cut-out for satisfactory operation (located top of casing) – (Electric heating models only). If the safety cut out trips regularly in normal operation; check the operation of the fan and that the airflow through the unit is not restricted by dust and the inlet or outlet are not obstructed. If the problem persists please contact Dunham-Bush.