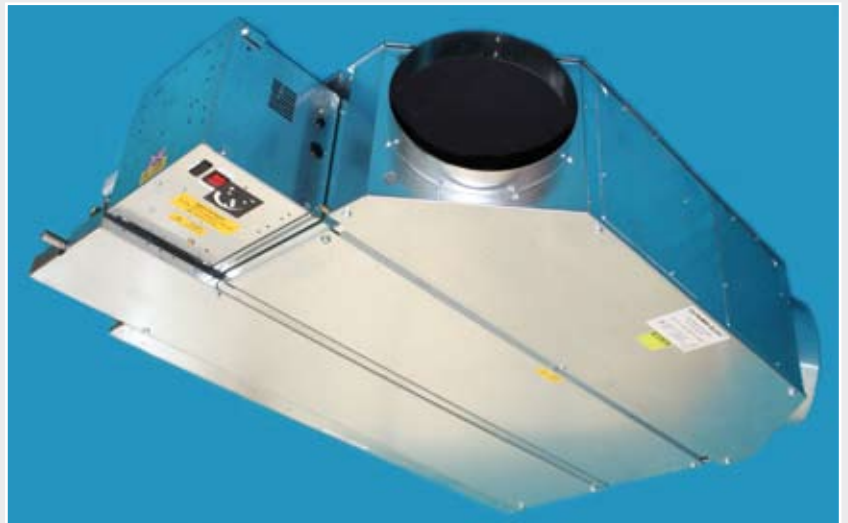




Panther Fan Coil Unit



Energy Efficient EC Motors
280mm Deep Chassis
Horizontal Fan Coil Unit

INTRODUCTION

The 'Panther', manufactured by Dunham-Bush is an adaptable, easy to use fan coil unit, that performs quietly and powerfully, with inherent quality.

'Panther' fan coil units are built to no-compromise engineering standards using only the most modern and reliable components available. Combined with the very latest design and manufacturing technology, the 'Panther' provides the ideal solution to achieve exact thermal and noise criteria. Careful consideration has been given to safe site handling, fast / simple installation and ease of access for maintenance. Designed to offer maximum site flexibility, the 'Panther' is one of the most versatile and user-friendly products available in today's market.

Flexibility Is The Key

The 'Panther' uses a non-handed, dual-purpose coil block covered by a stainless steel 'V' formed condensate pan, terminating with a central drain point at the lowest end of the tray. This universal design is used on both RH and LH configurations and allows the complete coil and condensate pan assembly to be site reversible without the need for any additional parts. The discharge plenum is supplied with a combination of spigots and blanking plates that can be interchanged on site. The added facility to re-locate the controls box from one side of the unit to the other gives the 'Panther' the flexibility to accommodate site layout changes and client fit-outs. If required it can even be used for underfloor applications.

Simple Access For Maintenance

Removing large panels secured by 10-20 screws and then getting them through a 600mm x 600mm ceiling grid, all whilst stood on a stepladder, has made life difficult for the maintenance engineer in the past. Special consideration has been given to overcoming these problems and the resultant 'Panther' now brings a 'breath of fresh air' to maintenance tasks.

The main unit access panel is secured by quarter turn 'quick release' fasteners and gives access for inspecting the fan motor assemblies. Each fan motor is mounted separately onto the main bulkhead plate with an in-line plug and socket to facilitate easy removal.

Filters are simple to remove for cleaning, they withdraw from either the rear or side of the unit without the use of tools or need to remove panels. On model sizes 4-7 both the filters and fan access panels are split into two smaller sections for easier removal and handling.

Electrical and controls work can be easily carried out via two hinged covers giving access to all components.

The stainless steel condensate pan can also be easily removed for cleaning via its own separate access panel.

Energy Efficient EC Fan Motors

The 'Panther' incorporates high efficiency EC (electronically commutated) fan motors. Fan speed is controlled via an external 2-10VDC signal which can be provided by a manual, pre wired or remotely supplied speed control potentiometer. Alternatively, the signal can be supplied directly from the BMS (Building Management System).

High Quality Fan Motor Assemblies

The fan motor assemblies are individually mounted on to a 'floating' bulkhead plate, isolating them from the rest of the unit chassis, reducing resonance and casing breakout noise. Use of the highest quality components available is never more important than in the case of the fan motor assemblies to ensure that quiet and powerful operation is consistently achieved year after year.

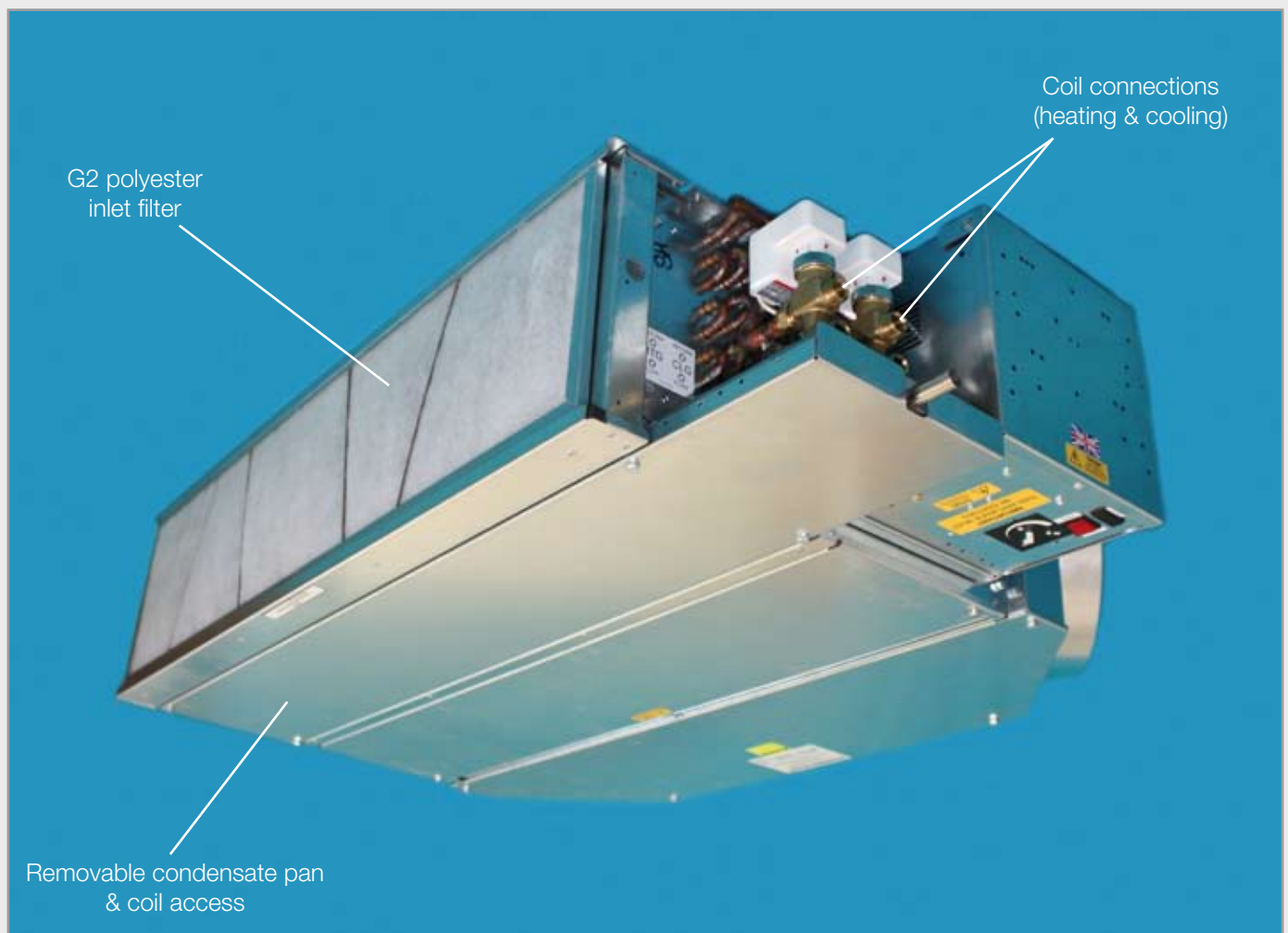
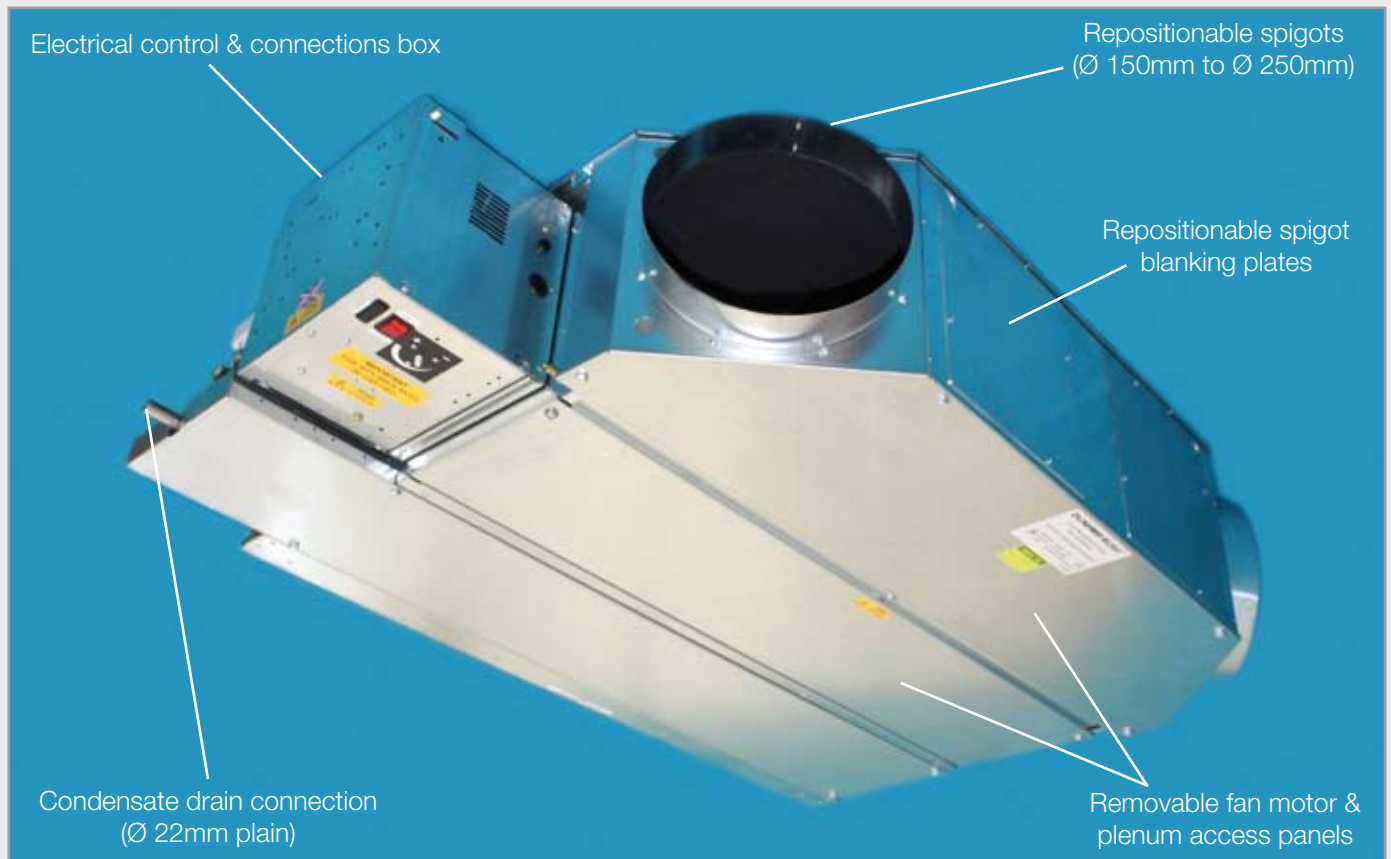
Adaptable Controls Box

'Panther' fan coil units are supplied with a well-ventilated controls box supplied with a one metre flying lead for connection to an adjacent fused spur. The box has been designed to accommodate most temperature controllers and associated electrical components. The complete controls box can be disconnected from the unit for any major electrical / controls refurbishment, this design also enables the controls box to be retrofitted after the unit has been installed.

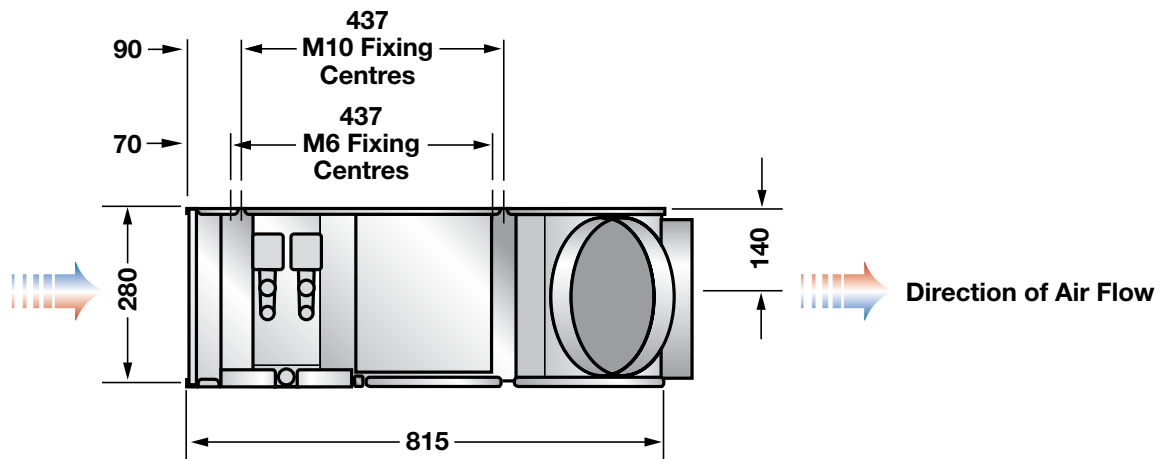
Long Life Stainless Steel Condensate Pan

'Panther' fan coil units incorporate stainless steel condensate pans as standard. By using stainless steel, cleaning is made easier whilst the resistance to corrosion is increased, vastly improving the longevity of the pan. The fully welded 'V' formed pan creates a positive seal against the coil preventing any air bypass. The pan is mounted to provide a positive fall in two directions to the central outlet at the lowest end of the pan. The 22mm O.D. stainless steel outlet is finished flush with the bottom of the pan ensuring that condensate drains completely.

FEATURES

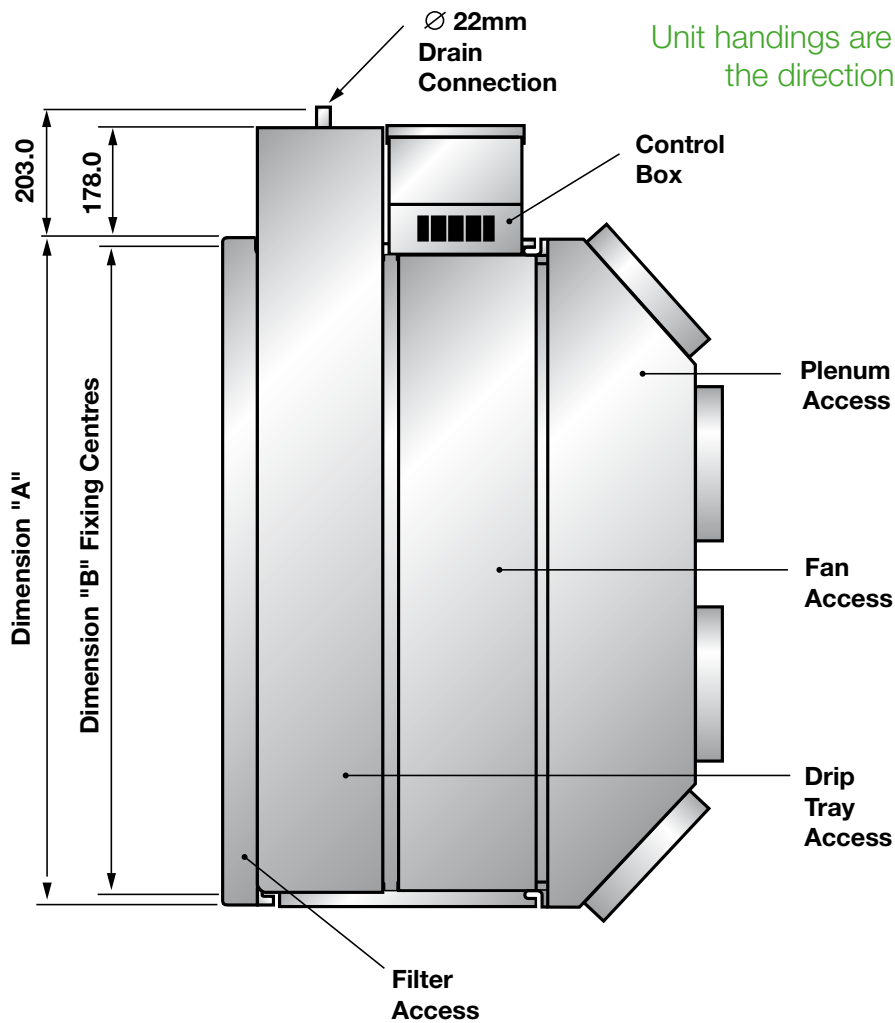


DIMENSIONS



LH Unit shown, RH opposite

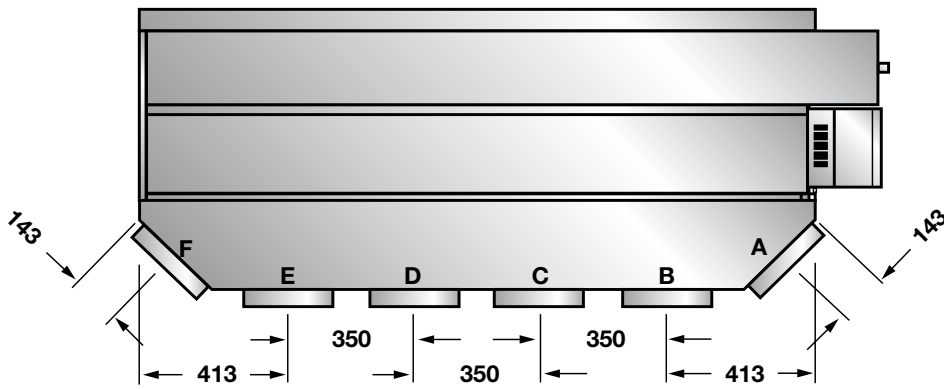
Unit handings are viewed looking against the direction of air flow, in plan view



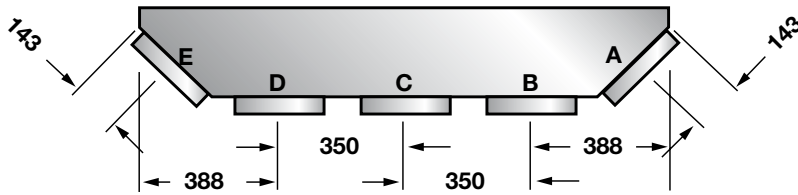
Unit view from below

| Model | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------|-----|------|------|------|------|------|------|
| Dimension 'A' (mm) | 675 | 1075 | 1075 | 1475 | 1475 | 1875 | 1875 |
| Dimension 'B' (mm) | 641 | 1041 | 1041 | 1441 | 1441 | 1841 | 1841 |
| Dry weight (kg) | 37 | 51 | 56 | 70 | 74 | 92 | 96 |

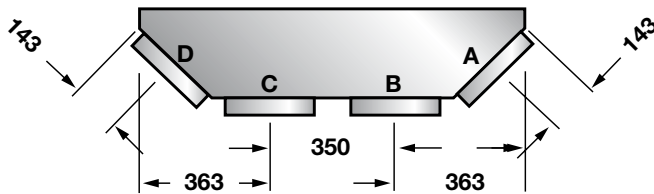
Models
Panther 6 & 7
View from below



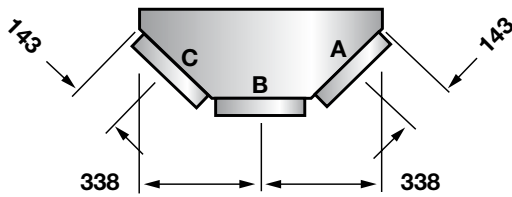
Models
Panther 4 & 5
View from below



Models
Panther 2 & 3
View from below



Model
Panther 1
View from below



Standard discharge options available for all models:

- Octagonal plenum circular spigots (above)
- Rectangular plenum circular spigots
- Rectangular plenum rectangular spigot

Standard
Spigot Sizes (mm)

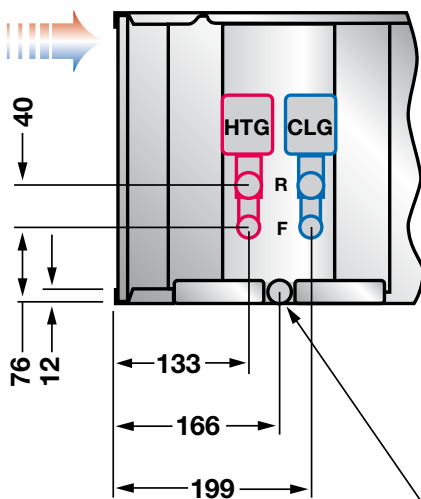
Ø 250

Ø 225

Ø 200

Ø 150

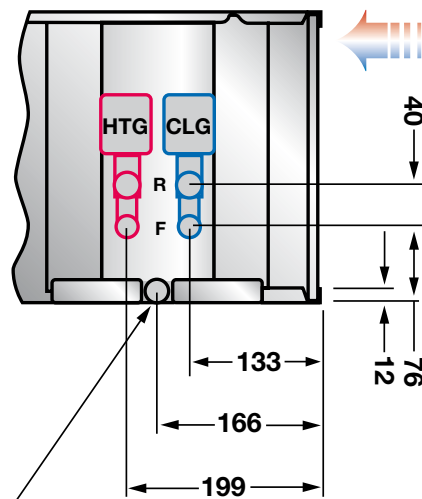
Direction
of Air Flow



LH Pipework detail

Ø 22mm
Drain Connection

Direction
of Air Flow

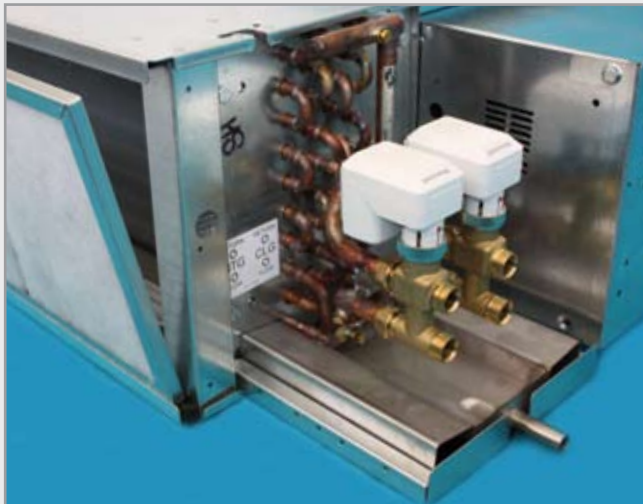


RH Pipework detail

CONTROLS & ACCESSORIES

Standard Thermal Controls

'Panther' fan coil units can be supplied with a number of standard factory fitted control packages. These packages typically consist of a setpoint controller with return air sensor, 2 or 4 port valves and actuators. Speed control dial and switches can be mounted to the control box or supplied loose for remote installation. Other control options available upon request.

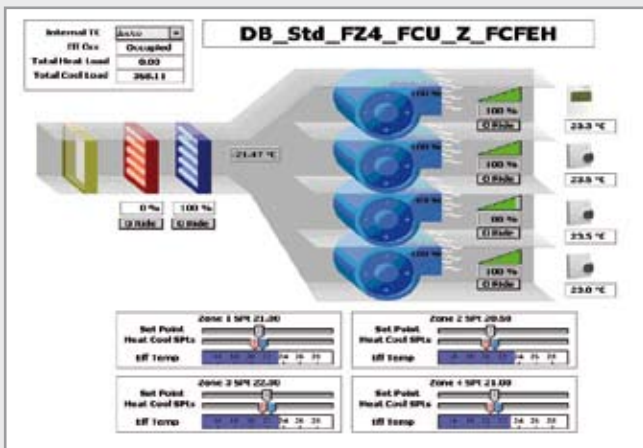


Standard 4 port valves and actuators

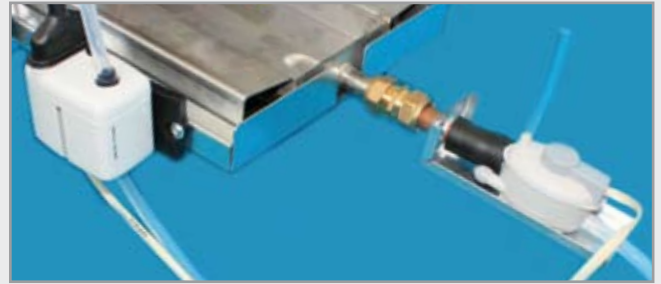
Dunham-Bush 'Zone Flow' Fully Communicating Control

The 'Zone Flow' system by Dunham-Bush includes a fully functional communicating controller, enabling FCUs to communicate with external networks. The system allows individual control of FCUs via a router or gateway, communicating to any network such as BACnet, Echelon, Modbus networks as well as BMS networks.

Alterations to the control strategy can be made using a web-serving graphical user interface, allowing the user to edit control software and algorithms. The controller is fitted with an enhanced range of analogue, digital and universal inputs/outputs as well as sensors for monitoring FCU status.



Dunham-Bush 'Zone-Flow' control software



Optional fitted condensate pump

Ancillary Components

A range of optional ancillary components for the 'Panther' fan coil unit are available, including:

- Condensate pumps
- Fan monitoring devices
- Control relays
- Electric heating elements
- Acoustic attenuation
- Inlet plenums
- Pressure independant control valves
- Extended condensate pans

For any special requirements, please contact the Dunham-Bush sales department for further information and availability.



'Panther' control box with fitted speed potentiometer

Free Issued Controls

A service to fit non-standard free issued controls is available. The 'Panther' control box has been designed to accommodate most temperature controllers and associated electrical components.

Please note: Factory fitting of free issued controls is subject to component compatibility and suitability.

SPECIFICATION

The 'Panther' Series Fan Coil Units shall be manufactured by Dunham-Bush Limited, Downley Road, Havant, Hampshire, PO9 2JD. Units shall be selected to achieve the required performance data whilst operating against the specified design parameters. 'Panther' units shall be of a draw through design and comprise a washable air filter, multi-block coil with separate connections for cooling and heating, stainless steel condensate pan, low noise external rotor EC fan motors, integral multi-outlet discharge plenum and an electrical / controls enclosure.

Unit Chassis - Chassis shall be of a rivetted construction manufactured from a minimum thickness of 1.2mm galvanised steel. Stiffeners and strengthening folds shall be used to form a solid robust structure. Recessed, reinforced mounting slots able to accept M6, M8 or M10 drop rods or mounting bolts are provided for installation whilst the panel design and use of 'dutch folds' produce a flush external finish with no sharp edges. Fan/Motor assemblies shall be mounted on a 1.6mm 'floating' bulkhead plate, isolated from the rest of the unit to reduce noise resonance through the unit casing. Panels shall be designed to allow separate unhindered access to the serviceable items, namely filters, condensate pan, coil, fans / motors and controls.

Discharge (Supply Air) Plenums - Mitred corner or rectangular, integral acoustically lined discharge plenum shall form part of the unit chassis with multi-outlet spigots with various size options available to match most ductwork configurations. Use of interchangeable circular spigots and blanking plates, secured to the plenum by screws allow outlet positions to be easily moved or extra spigots to be added in the event of a site layout changes or client fit-out.

Access - Access for inspection and service to the fans/motors shall be via an insulated panel secured with 1/4 turn captive quick release fasteners. On model sizes 4 - 7 this panel is to be split into two sections to allow easy removal by a single engineer through a standard ceiling grid. Access to the condensate pan / coil, filters and discharge plenum are via separate insulated panels by M6 setscrews into nutserts. All access panels form a positive airtight seal against the main unit chassis

Insulation - Unit chassis and panel work shall be both thermally and acoustically insulated with 95kg/m³, CFC & HFC free, Class 'O' open cell expanded foam insulation, having a maximum thermal conductivity of 0.047 W/mK, fully complying with London Borough and CAA flammability and toxicity requirements. The adhesive is a modified acrylic, light and ageing resistant synthetic resin with high temperature tolerance.

Air Filters - Filters shall be fully framed, washable, polyester G2 media to BS EN779. Filters shall be easily removable from either the rear or side of the unit without the need to remove any panel work.

Coils - Coil shall be multi-block, dual purpose type, divided into two sections to provide both cooling and heating. To be constructed from 3/8" seamless copper tube mechanically expanded into aluminium fins and brazed into copper headers. Aluminium fins shall have die formed collars to maximise contact with the tubes and provide maximum heat transfer. Coils shall be circuited to provide low hydraulic pressure drops under normal operating conditions whilst being designed to prevent air locks, ensuring positive venting and draining via easily slotted hexagonal vent plugs. Coils to terminate with 15mm O.D. copper tails, spaced at 40mm centres to accept most standard 4-port valves. Tails are to terminate within a restraining plate providing adequate support to the control valves and adjoining pipework. Coils shall be tested by dry air under water to 30 bar.

Condensate Pan - The condensate pan shall be of a one-piece construction manufactured from 1.2mm 304L stainless steel with fully brazed corners. Pans to be 'V' formed and mounted to provide a positive fall in two directions ensuring the free flow of condensate to the 22mm diameter stainless steel end connection. Pans shall be externally insulated with 3mm closed cell class 'O' thermal insulation. Pans to be enclosed within a galvanised steel carriage providing both protection against damage and easy removal for cleaning.

EC Fan Motors - Fan motors shall be high efficiency, low noise, electronically commutated '3-core dc', external rotor type with resilient mounts to minimise noise and vibration. Winding insulation shall be rated to Class 'B' and bearing shall be 'sealed for life'. Units require a 200/277V 50 or 60Hz single phase power supply. Each fan shall be DIDW forward curved and shall be statically and dynamically balanced.

Fan Motor Assemblies - Fan motor assemblies shall be mounted separately onto a 'floating' bulkhead to isolate noise resonance from the rest of the unit and facilitate easy removal of an individual fan motor for replacement. Alternatively the complete 'floating' bulkhead can be removed from the unit for major attention.

Fan Motor Speed Control - Fan speed control shall be affected by a 2-10VDC control signal to the motor(s). An infinitely adjustable potentiometer fitted within the controls box, or supplied loose for remote mounting, enabling selection of the desired fan speed to be achieved. Alternatively the motors can be controlled directly by a BMS signal, or other source.

Controls Box - Each unit shall be provided with a well-ventilated electrical box complete with two hinged lids for ease of access. The control box shall contain a speed control potentiometer (if not supplied loose for remote fitting), harmonic filter, on/off switch (if not supplied loose for remote fitting) and terminal connection block. Each will also contain a mains fuse whilst also providing space to accommodate most available temperature controllers along with any associated relays (if required). The control box shall be provided with a 1 metre flying lead for site connection to an adjacent fused spur outlet.

Temperature Controls - Temperature controls shall be provided in accordance with the project specification. Standard temperature controls will comprise of modulating 2 or 4 port valves and actuators, acting in conjunction with a return air sensor wired into an electronic stand alone controller. For special or non standard control packages a service to factory fit free issued control components is also available, further information about this service is available upon request.

COOLING DATA

| | | | | Chilled Water Flow/Return Temperature | | | | | | | |
|-------|-----------|----------------------|------------------|---------------------------------------|------------|-----------|------------|-----------|------------|-----------|------------|
| | | | | 5.5/11°C | | 6/12°C | | 8/13°C | | 10/14°C | |
| Model | Fan Speed | EC Input Voltage (V) | Air Volume (l/s) | Sens (kW) | Total (kW) | Sens (kW) | Total (kW) | Sens (kW) | Total (kW) | Sens (kW) | Total (kW) |
| Pan 1 | Ultra Low | 5.2 | 85 | 1.46 | 1.90 | 1.38 | 1.74 | 1.25 | 1.46 | 1.11 | 1.20 |
| | Extra Low | 5.7 | 97 | 1.62 | 2.08 | 1.53 | 1.90 | 1.38 | 1.60 | 1.24 | 1.33 |
| | Low | 6.2 | 122 | 1.95 | 2.46 | 1.82 | 2.21 | 1.66 | 1.89 | 1.50 | 1.60 |
| | Medium | 7.2 | 146 | 2.27 | 2.82 | 2.10 | 2.51 | 1.92 | 2.17 | 1.75 | 1.87 |
| Pan 2 | Ultra Low | 5.9 | 117 | 2.04 | 2.67 | 1.92 | 2.43 | 1.74 | 2.05 | 1.55 | 1.68 |
| | Extra Low | 6.7 | 143 | 2.40 | 3.10 | 2.26 | 2.79 | 2.05 | 2.37 | 1.84 | 1.98 |
| | Low | 7.9 | 168 | 2.76 | 3.51 | 2.56 | 3.13 | 2.33 | 2.68 | 2.11 | 2.27 |
| | Medium | 8.4 | 181 | 2.94 | 3.72 | 2.72 | 3.31 | 2.48 | 2.84 | 2.25 | 2.42 |
| Pan 3 | Ultra Low | 5.1 | 147 | 2.56 | 3.36 | 2.40 | 3.04 | 2.18 | 2.57 | 1.96 | 2.12 |
| | Extra Low | 5.8 | 200 | 3.36 | 4.32 | 3.12 | 3.86 | 2.85 | 3.30 | 2.57 | 2.77 |
| | Low | 6.7 | 248 | 4.06 | 5.16 | 3.77 | 4.61 | 3.45 | 3.96 | 3.11 | 3.34 |
| | Medium | 7.5 | 294 | 4.72 | 5.96 | 4.39 | 5.34 | 4.02 | 4.59 | 3.63 | 3.89 |
| Pan 4 | Ultra Low | 5.3 | 180 | 3.13 | 4.10 | 2.91 | 3.67 | 2.66 | 3.12 | 2.38 | 2.58 |
| | Extra Low | 5.9 | 230 | 3.88 | 5.01 | 3.59 | 4.45 | 3.28 | 3.80 | 2.97 | 3.20 |
| | Low | 6.8 | 280 | 4.61 | 5.88 | 4.26 | 5.22 | 3.91 | 4.49 | 3.54 | 3.80 |
| | Medium | 7.8 | 332 | 5.34 | 6.75 | 4.96 | 6.03 | 4.55 | 5.19 | 4.11 | 4.41 |
| Pan 5 | Ultra Low | 4.7 | 185 | 3.33 | 4.43 | 3.12 | 4.00 | 2.83 | 3.38 | 2.52 | 2.74 |
| | Extra Low | 5.3 | 244 | 4.26 | 5.58 | 3.97 | 5.02 | 3.62 | 4.26 | 3.25 | 3.52 |
| | Low | 6.2 | 319 | 5.40 | 6.97 | 5.04 | 6.28 | 4.59 | 5.34 | 4.14 | 4.46 |
| | Medium | 7.2 | 394 | 6.48 | 8.27 | 6.09 | 7.51 | 5.55 | 6.40 | 4.99 | 5.36 |
| Pan 6 | Ultra Low | 5.0 | 230 | 4.06 | 5.34 | 3.77 | 4.77 | 3.43 | 4.05 | 3.09 | 3.35 |
| | Extra Low | 5.6 | 307 | 5.23 | 6.78 | 4.85 | 6.05 | 4.44 | 5.17 | 4.00 | 4.32 |
| | Low | 6.3 | 375 | 6.23 | 7.98 | 5.79 | 7.15 | 5.30 | 6.12 | 4.78 | 5.14 |
| | Medium | 7.2 | 446 | 7.24 | 9.18 | 6.76 | 8.26 | 6.18 | 7.08 | 5.56 | 5.97 |
| Pan 7 | Ultra Low | 5.1 | 282 | 5.05 | 6.69 | 4.71 | 6.03 | 4.29 | 5.11 | 3.84 | 4.18 |
| | Extra Low | 5.3 | 324 | 5.71 | 7.51 | 5.34 | 6.78 | 4.86 | 5.75 | 4.36 | 4.73 |
| | Low | 6.1 | 412 | 7.04 | 9.14 | 6.61 | 8.29 | 6.02 | 7.04 | 5.40 | 5.83 |
| | Medium | 6.8 | 499 | 8.27 | 10.58 | 7.84 | 9.74 | 7.13 | 8.26 | 6.35 | 6.83 |

Maximum cooling performance data is based on an entering air condition of 23°C dry bulb and 16°C wet bulb, airflow rates based on external static pressure drop of 30Pa.

Dunham-Bush can offer a selection service for any conditions not stated above. Please contact the Dunham-Bush sales department.

HEATING & ELECTRICAL DATA

| | | | | Hot Water Flow/Return Temp. | | | Electrical Data | |
|-------|-----------|----------------------|------------------|-----------------------------|-----------|-----------|-----------------|--------------------------------|
| | | | | 82/71°C | 60/50°C | 50/40°C | | |
| Model | Fan Speed | EC Input Voltage (V) | Air Volume (l/s) | Duty (kW) | Duty (kW) | Duty (kW) | SFP (W/l/s) | Normal Max Running Current (A) |
| Pan 1 | Ultra Low | 5.2 | 85 | 2.27 | 1.30 | 0.64 | 0.21 | 0.64 |
| | Extra Low | 5.7 | 97 | 2.47 | 1.42 | 0.72 | 0.22 | |
| | Low | 6.2 | 122 | 2.88 | 1.65 | 0.93 | 0.24 | |
| | Medium | 7.2 | 146 | 3.28 | 1.86 | 1.15 | 0.29 | |
| Pan 2 | Ultra Low | 5.9 | 117 | 3.48 | 2.06 | 1.38 | 0.23 | 0.64 |
| | Extra Low | 6.7 | 143 | 3.95 | 2.33 | 1.57 | 0.27 | |
| | Low | 7.9 | 168 | 4.39 | 2.59 | 1.73 | 0.33 | |
| | Medium | 8.4 | 181 | 4.61 | 2.72 | 1.82 | 0.37 | |
| Pan 3 | Ultra Low | 5.1 | 147 | 4.02 | 2.37 | 1.59 | 0.20 | 1.28 |
| | Extra Low | 5.8 | 200 | 4.94 | 2.91 | 1.94 | 0.22 | |
| | Low | 6.7 | 248 | 5.73 | 3.37 | 2.24 | 0.25 | |
| | Medium | 7.5 | 294 | 6.43 | 3.77 | 2.51 | 0.29 | |
| Pan 4 | Ultra Low | 5.3 | 180 | 5.05 | 2.93 | 1.58 | 0.20 | 1.28 |
| | Extra Low | 5.9 | 230 | 5.92 | 3.43 | 2.09 | 0.22 | |
| | Low | 6.8 | 280 | 6.76 | 3.90 | 2.54 | 0.27 | |
| | Medium | 7.8 | 332 | 7.59 | 4.37 | 2.84 | 0.32 | |
| Pan 5 | Ultra Low | 4.7 | 185 | 5.14 | 2.98 | 1.63 | 0.20 | 1.92 |
| | Extra Low | 5.3 | 244 | 6.15 | 3.56 | 2.23 | 0.21 | |
| | Low | 6.2 | 319 | 7.38 | 4.26 | 2.77 | 0.25 | |
| | Medium | 7.2 | 394 | 8.53 | 4.90 | 3.17 | 0.30 | |
| Pan 6 | Ultra Low | 5.0 | 230 | 6.58 | 3.87 | 2.59 | 0.20 | 1.92 |
| | Extra Low | 5.6 | 307 | 7.94 | 4.66 | 3.10 | 0.21 | |
| | Low | 6.3 | 375 | 9.10 | 5.32 | 3.53 | 0.24 | |
| | Medium | 7.2 | 446 | 10.26 | 5.99 | 3.97 | 0.29 | |
| Pan 7 | Ultra Low | 5.1 | 282 | 7.50 | 4.41 | 2.94 | 0.21 | 2.56 |
| | Extra Low | 5.3 | 324 | 8.23 | 4.83 | 3.21 | 0.21 | |
| | Low | 6.1 | 412 | 9.70 | 5.67 | 3.76 | 0.25 | |
| | Medium | 6.8 | 499 | 11.06 | 6.45 | 4.27 | 0.27 | |

Maximum heating performance data is based on an entering air condition of 20°C, airflow rates based on external static pressure drop of 30Pa.

Dunham-Bush can offer a selection service for any conditions not stated above. Please contact the Dunham-Bush sales department.

ACOUSTIC DATA

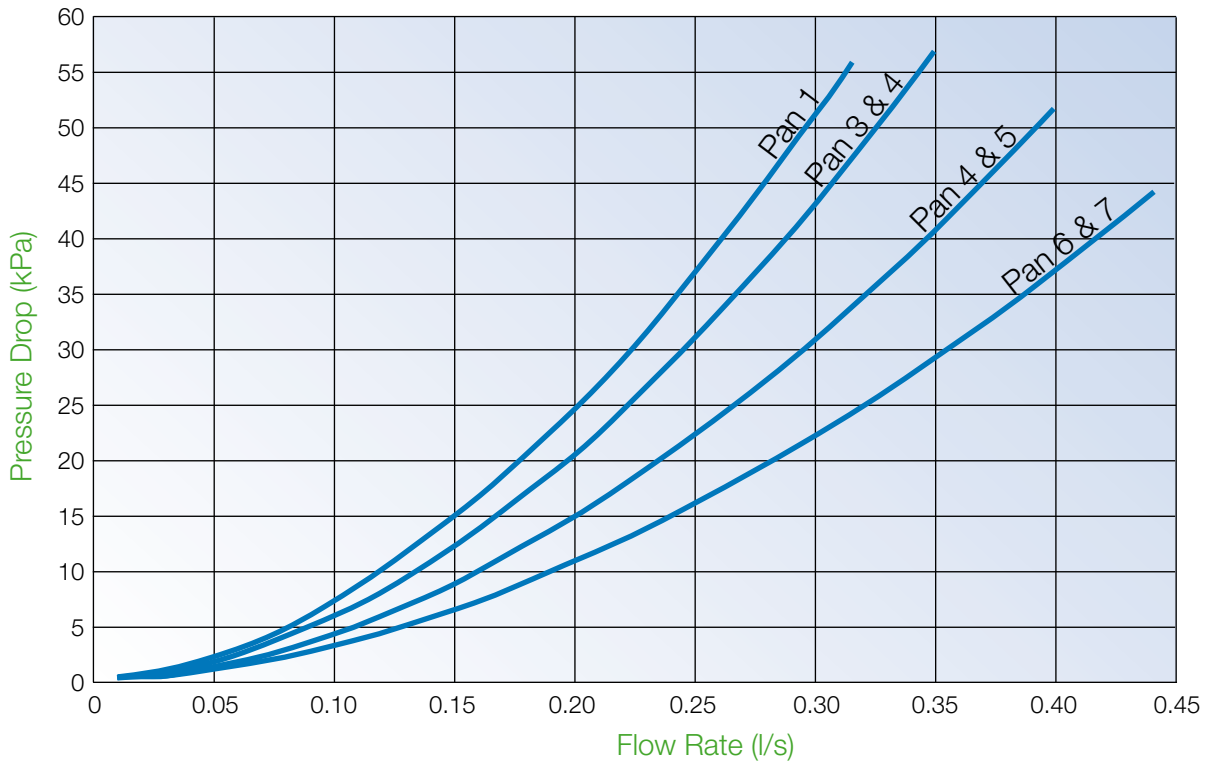
| Radiated Sound Power Levels (SWL) dB ref.10 ⁻¹² W | | | | | | | | | | | | | | |
|--|-----------|-------------------------|-----|-----|----|----|----|----------------------------|-----|-----|----|----|----|--|
| Model | Fan Speed | Discharge Radiated (dB) | | | | | | Inlet / Case Radiated (dB) | | | | | | |
| | | Frequency (Hz) | | | | | | Frequency (Hz) | | | | | | |
| | | 125 | 250 | 500 | 1k | 2k | 4k | 125 | 250 | 500 | 1k | 2k | 4k | |
| Pan 1 | Ultra Low | 42 | 45 | 39 | 29 | 11 | 14 | 45 | 44 | 47 | 36 | 30 | 26 | |
| | Extra Low | 43 | 46 | 41 | 31 | 12 | 16 | 46 | 46 | 49 | 38 | 32 | 29 | |
| | Low | 45 | 48 | 42 | 34 | 14 | 18 | 47 | 47 | 50 | 40 | 34 | 31 | |
| | Medium | 47 | 50 | 45 | 39 | 17 | 23 | 50 | 50 | 51 | 44 | 37 | 35 | |
| Pan 2 | Ultra Low | 44 | 46 | 38 | 29 | 12 | 14 | 48 | 46 | 47 | 38 | 34 | 29 | |
| | Extra Low | 45 | 48 | 41 | 32 | 13 | 16 | 49 | 48 | 48 | 40 | 36 | 32 | |
| | Low | 47 | 51 | 42 | 38 | 16 | 20 | 52 | 52 | 51 | 44 | 40 | 36 | |
| | Medium | 48 | 51 | 43 | 37 | 17 | 21 | 53 | 52 | 52 | 45 | 41 | 37 | |
| Pan 3 | Ultra Low | 41 | 44 | 39 | 27 | 10 | 12 | 45 | 46 | 47 | 36 | 29 | 24 | |
| | Extra Low | 44 | 47 | 43 | 32 | 14 | 15 | 47 | 49 | 50 | 40 | 34 | 30 | |
| | Low | 47 | 49 | 44 | 34 | 16 | 19 | 49 | 50 | 51 | 43 | 36 | 33 | |
| | Medium | 48 | 52 | 46 | 36 | 19 | 22 | 51 | 53 | 53 | 45 | 39 | 36 | |
| Pan 4 | Ultra Low | 41 | 43 | 40 | 30 | 13 | 15 | 47 | 44 | 46 | 37 | 31 | 26 | |
| | Extra Low | 44 | 46 | 43 | 35 | 17 | 21 | 49 | 47 | 49 | 43 | 37 | 33 | |
| | Low | 47 | 48 | 45 | 39 | 21 | 25 | 50 | 49 | 51 | 45 | 39 | 36 | |
| | Medium | 49 | 49 | 47 | 40 | 24 | 28 | 53 | 52 | 53 | 48 | 42 | 39 | |
| Pan 5 | Ultra Low | 43 | 44 | 39 | 30 | 14 | 12 | 44 | 44 | 45 | 35 | 28 | 23 | |
| | Extra Low | 45 | 47 | 42 | 34 | 16 | 15 | 47 | 47 | 47 | 38 | 32 | 28 | |
| | Low | 48 | 51 | 45 | 38 | 19 | 19 | 51 | 51 | 51 | 42 | 37 | 34 | |
| | Medium | 51 | 54 | 48 | 41 | 23 | 23 | 55 | 54 | 53 | 46 | 41 | 39 | |
| Pan 6 | Ultra Low | 41 | 43 | 39 | 27 | 12 | 13 | 46 | 45 | 45 | 35 | 30 | 24 | |
| | Extra Low | 42 | 45 | 41 | 31 | 14 | 16 | 48 | 48 | 47 | 38 | 33 | 28 | |
| | Low | 44 | 48 | 43 | 34 | 16 | 20 | 50 | 50 | 50 | 42 | 36 | 33 | |
| | Medium | 47 | 51 | 45 | 35 | 20 | 23 | 53 | 53 | 52 | 45 | 39 | 37 | |
| Pan 7 | Ultra Low | 42 | 45 | 41 | 32 | 16 | 14 | 44 | 45 | 46 | 37 | 31 | 27 | |
| | Extra Low | 43 | 46 | 42 | 33 | 17 | 15 | 45 | 46 | 47 | 38 | 32 | 28 | |
| | Low | 46 | 49 | 45 | 37 | 19 | 19 | 48 | 50 | 50 | 42 | 36 | 34 | |
| | Medium | 48 | 51 | 47 | 39 | 21 | 22 | 51 | 52 | 52 | 45 | 40 | 37 | |

| End Reflection Losses | Frequency/Hz | | | | | |
|-----------------------|--------------|-----|-----|----|----|----|
| | 125 | 250 | 500 | 1k | 2k | 4k |
| | 8 | 4 | 1 | 0 | 0 | 0 |

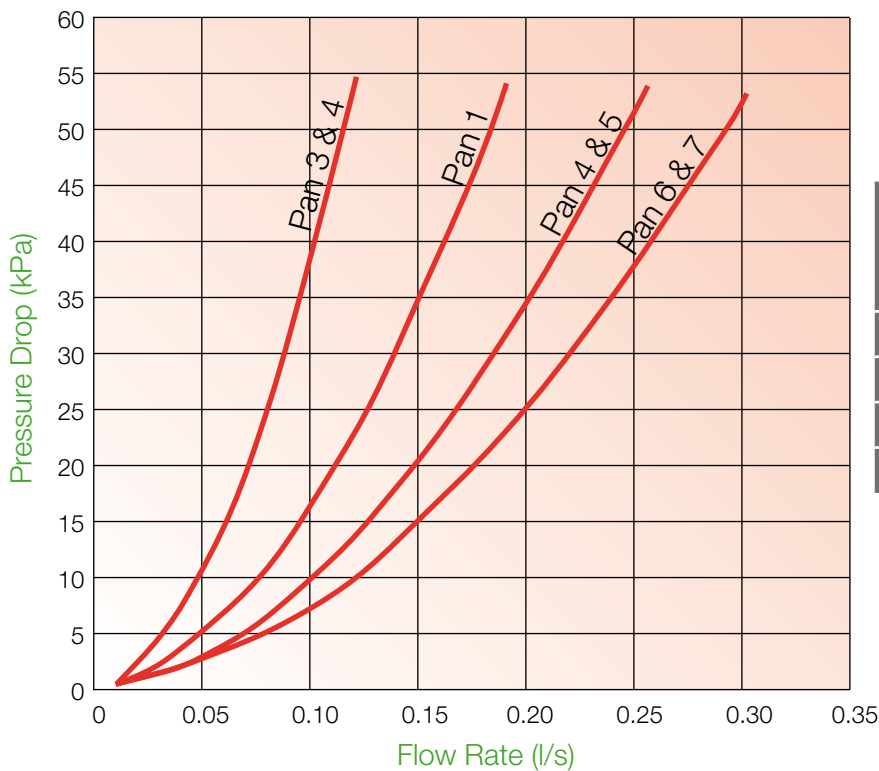
The above Sound Power Levels have been derived using the 'Real Room' test method. All units were tested using two 250mm supply ducts with an external static resistance / pressure drop of 30 Pa applied to the low speed setting. To obtain In-Duct sound Power levels, the end reflection losses shown in the above table should be added to the discharge levels.

HYDRAULIC DATA

Cooling Coil Pressure Drops



Heating Coil Pressure Drops



| Model | Water Content of Coil (litres) | |
|---------------|--------------------------------|------|
| | Clg | Htg |
| Panther 1 | 1.70 | 0.2 |
| Panther 2 & 3 | 2.55 | 0.28 |
| Panther 4 & 5 | 3.68 | 0.40 |
| Panther 6 & 7 | 4.53 | 0.51 |



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Manufacturer reserves
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PDS-1000-F-0213-07

Nov 2013