



12 OCT 2012

FOR THE
ATTENTION OF

For office use only

Application No. 320120953

Date received 15.10.12

Fee paid £170.00 Receipt No: 10814

Council Offices, Church Walk, Clitheroe, Lancashire. BB7 2RA Tel: 01200 425111 www.ribblevalley.gov.uk

Application for Planning Permission.
Town and Country Planning Act 1990

Publication of applications on planning authority websites

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website.
If you require any further clarification please contact the Authority's planning department.

1. Applicant Name, Address and Contact Details

Title:	Mr	First name:	Mike	Surname:	Thomson
Company name:	EH Booths & Co				
Street address:	Booths Central Office			Country Code	National Number
	Longridge Road			Telephone number:	Extension Number
				Mobile number:	
Town/City:	Ribbleton			Fax number:	
County:	Lancashire			Email address:	
Country:	United Kingdom				
Postcode:	PR2 5BX				
Are you an agent acting on behalf of the applicant?					
☒ Yes ☐ No					

2. Agent Name, Address and Contact Details

Title:	Mr	First Name:	Jeremy	Surname:	Birtwell
Company name:	Wilson Mason & Partners				
Street address:	Upland House Spring Lane			Country Code	National Number
	Samlesbury			Telephone number:	Extension Number
				Mobile number:	
Town/City:	Preston			Fax number:	
County:	Lancashire			Email address:	
Country:	United Kingdom				
Postcode:	PR5 0UX				
	jbirtwell@wilsonmason.co.uk				

3. Description of the Proposal

Please describe the proposed development including any change of use:

Car park crossing point, alteration of public right of way, modification of air intake duct, installation of trolley shelter, installation of extract duct

Has the building, work or change of use already started?

☒ Yes ☐ No

If Yes, please state the date when the building, work or use started:

01/08/2012

Has the building work or change of use been completed?

☐ Yes ☒ No

4. Site Address Details

Full postal address of the site (including full postcode where available)

House:		Suffix:	
House name:	E H BOOTHS & CO LTD		
Street address:	BERRY LANE		
	LONGRIDGE		
Town/City:	PRESTON		
County:			
Postcode:	PR3 3NH		

Description of location or a grid reference
(must be completed if postcode is not known):

Easting:	360294
Northing:	437577

Description:

5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application?

☒ Yes ☐ No

If Yes, please complete the following information about the advice you were given (this will help the authority to deal with this application more efficiently):

Officer name:

Title:	Mr	First name:	Graeme	Surname:	Thorpe
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Reference: Booths Longridge

Date (DD/MM/YYYY): 03/09/2012 (Must be pre-application submission)

Details of the pre-application advice received:

take account of neighbour comments

6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway? ☐ Yes ☒ No

Is a new or altered pedestrian access proposed to or from the public highway? ☒ Yes ☐ No

Are there any new public roads to be provided within the site? ☐ Yes ☒ No

Are there any new public rights of way to be provided within or adjacent to the site? ☐ Yes ☒ No

Do the proposals require any diversions/extinguishments and/or creation of rights of way? ☐ Yes ☒ No

If you answered Yes to any of the above questions, please show details on your plans/drawings and state the reference of the plan(s)/drawings(s)

5432 L(00)02 Car Park

7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste? ☒ Yes ☐ No

If Yes, please provide details:

A bin store is included by the Warehouse entrance, as previously issued under 3/2011/0475

Have arrangements been made for the separate storage and collection of recyclable waste? ☒ Yes ☐ No

If Yes, please provide details:

Waste collection organised by Booths

8. Authority Employee/Member

With respect to the Authority, I am:

- (a) a member of staff
- (b) an elected member
- (c) related to a member of staff
- (d) related to an elected member

Do any of these statements apply to you?

☐ Yes ☒ No

9. Materials

Please state what materials (including type, colour and name) are to be used externally (if applicable):

9. (Materials continued)

320120953P

Walls - description:

Description of *existing* materials and finishes:

Rendered and painted blockwork

Description of *proposed* materials and finishes:

No change

Roof - description:

Description of *existing* materials and finishes:

Fibre cement sheet to main building, single ply membrane to recent extensions

Description of *proposed* materials and finishes:

No change

Windows - description:

Description of *existing* materials and finishes:

Aluminium polyester powder coated

Description of *proposed* materials and finishes:

No change

Doors - description:

Description of *existing* materials and finishes:

Glazed aluminium polyester powder coated glazed to main shop entrance. Steel security doors to warehouse exit and emergency exits. Steel roller shutter to warehouse entrance.

Description of *proposed* materials and finishes:

No change

Boundary treatments - description:

Description of *existing* materials and finishes:

Acoustic fence to main car park north elevation, 2m high with close boarding on housing estate sign, hit and miss boarding on car park side.

Description of *proposed* materials and finishes:

Additional signage added to fence

Vehicle access and hard standing - description:

Description of *existing* materials and finishes:

Macadam hard standing to all car park areas

Description of *proposed* materials and finishes:

No change

Lighting - add description

Description of *existing* materials and finishes:

2 no. lamp standards within main car park, and bulkhead lights on ceiling

Description of *proposed* materials and finishes:

No change

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement?

☒ Yes ☐ No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

5432 L(00)02 Car Park

10. Vehicle Parking

Please provide information on the existing and proposed number of on-site parking spaces:

Type of vehicle	Existing number of spaces	Total proposed (including spaces retained)	Difference in spaces
Cars	135	135	0
Light goods vehicles/public carrier vehicles	0	0	0
Motorcycles	0	0	0
Disability spaces	4	4	0
Cycle spaces	0	0	0
Other (e.g. Bus)	9	8	-1
Short description of Other	parent and child spaces		

11. Foul Sewage

Please state how foul sewage is to be disposed of:

Mains sewer

☒

Package treatment plant

☐

Unknown

☐

Septic tank

☐

Cess pit

☐

Other

Are you proposing to connect to the existing drainage system?

☐ Yes ☒ No ☐ Unknown

12. Assessment of Flood Risk

Is the site within an area at risk of flooding? (Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary.) ☐ Yes ☒ No

If Yes, you will need to submit an appropriate flood risk assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? ☐ Yes ☒ No

Will the proposal increase the flood risk elsewhere? ☐ Yes ☒ No

How will surface water be disposed of?

☐ Sustainable drainage system

☒ Main sewer

☐ Pond/lake

☐ Soakaway

☐ Existing watercourse

13. Biodiversity and Geological Conservation

To assist in answering the following questions refer to the guidance notes for further information on when there is a reasonable likelihood that any important biodiversity or geological conservation features may be present or nearby and whether they are likely to be affected by your proposals.

Having referred to the guidance notes, is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, OR on land adjacent to or near the application site:

a) Protected and priority species

☐ Yes, on the development site ☐ Yes, on land adjacent to or near the proposed development ☒ No

b) Designated sites, important habitats or other biodiversity features

☐ Yes, on the development site ☐ Yes, on land adjacent to or near the proposed development ☒ No

c) Features of geological conservation importance

☐ Yes, on the development site ☐ Yes, on land adjacent to or near the proposed development ☒ No

14. Existing Use

Please describe the current use of the site:

Supermarket with car park

Is the site currently vacant? ☐ Yes ☒ No

Does the proposal involve any of the following?

If yes, you will need to submit an appropriate contamination assessment with your application

Land which is known to be contaminated? ☐ Yes ☒ No

Land where contamination is suspected for all or part of the site? ☐ Yes ☒ No

A proposed use that would be particularly vulnerable to the presence of contamination? ☐ Yes ☒ No

15. Trees and Hedges

Are there trees or hedges on the proposed development site? ☐ Yes ☒ No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? ☐ Yes ☒ No

If Yes to either or both of the above, you may need to provide a full Tree Survey, at the discretion of your local planning authority. If a Tree Survey is required, this and the accompanying plan should be submitted alongside your application. Your local planning authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to construction - Recommendations'.

16. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste? ☐ Yes ☒ No

17. Residential Units

Does your proposal include the gain or loss of residential units? ☐ Yes ☒ No

18. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss, gain or change of use of non-residential floorspace? ☐ Yes ☒ No

19. Employment

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If known, please complete the following information regarding employees:

	Full-time	Part-time	Equivalent number of full-time
Existing employees	0	0	0
Proposed employees	0	0	0

20. Hours of Opening

If known, please state the hours of opening for each non-residential use proposed:

Use	Monday to Friday		Saturday		Sunday and Bank Holidays		Not Known
	Start Time	End Time	Start Time	End Time	Start Time	End Time	
A1	07:00:00	22:00:00	07:00:00	22:00:00	10:00:00	16:00:00	☐

21. Site Area

What is the site area?

170

sq.metres

22. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

Not applicable

Is the proposal for a waste management development?

☐ Yes ☒ No**23. Hazardous Substances**

Is any hazardous waste involved in the proposal?

☐ Yes ☒ No**24. Site Visit**

Can the site be seen from a public road, public footpath, bridleway or other public land?

☒ Yes ☐ No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)

☒ The agent ☐ The applicant ☐ Other person**25. Certificates (Certificate B)****Certificate of Ownership - Certificate B****Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12**

I certify/The applicant certifies that I have/the applicant has given the requisite notice to everyone else (as listed below) who, on the day 21 days before the date of this application, was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which this application relates.

Notice recipient				Date notice served	
Name	Lancashire County Council			04/07/2012	
Number:		Suffix:			
Street:	PO Box 78, County Hall				
Locality:	Fishergate				
Town:	Preston				
Postcode:	PR1 8XJ				

Title:	Mr	First name:	Jeremy	Surname:	Birtwell
Person role:	Agent	Declaration date:	06/03/2012	☒	Declaration made

25. Certificates (Agricultural Land Declaration)**Agricultural Land Declaration****Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12**

Agricultural Land Declaration - You Must Complete Either A or B

(A) None of the land to which the application relates is, or is part of an agricultural holding ☒(B) I have/The applicant has given the requisite notice to every person other than myself/the applicant who, on the day 21 days before the date of this application was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below: ☐

If any part of the land is an agricultural holding, of which the applicant is the sole tenant, the applicant should complete part (B) of the form by writing 'sole tenant - not applicable' in the first column of the table below

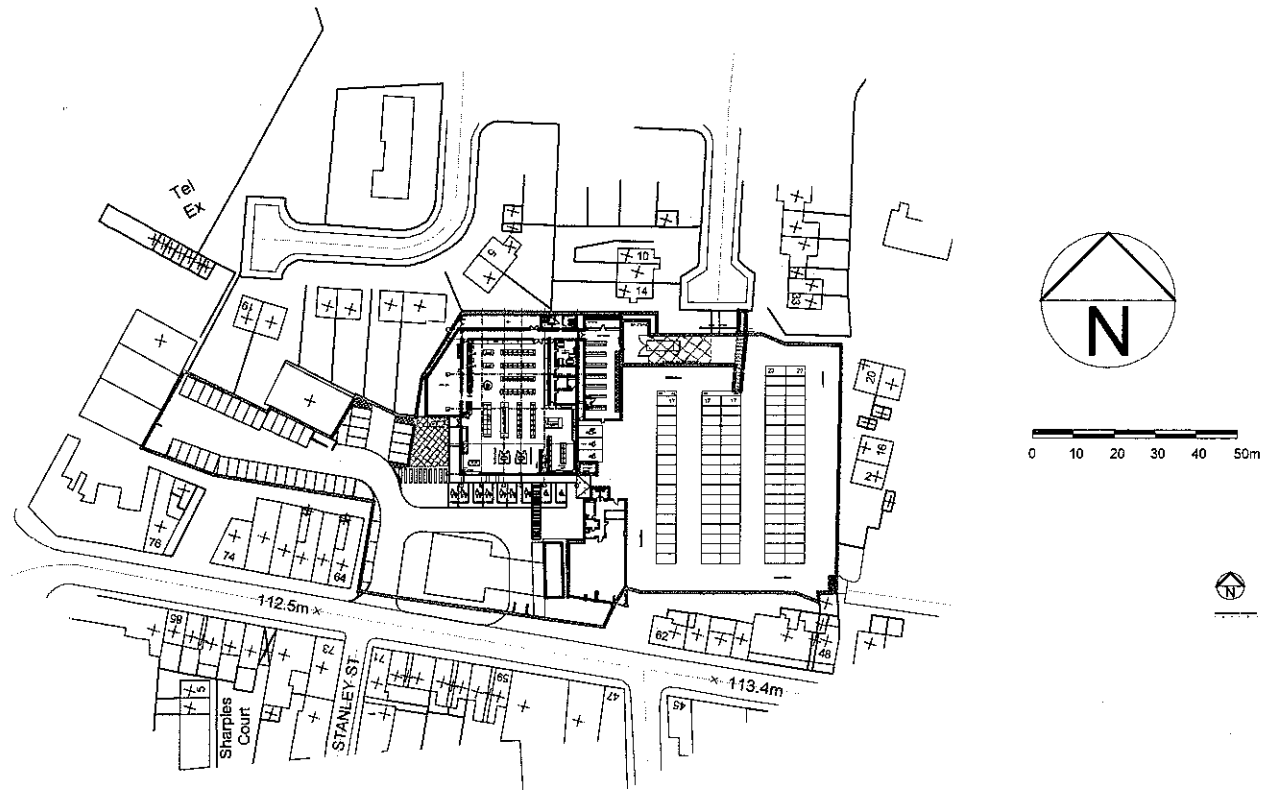
25. Certificates (Agricultural Land Declaration - continued)

Title: First Name: Surname:
Person role: Declaration date: ☒ Declaration Made

26. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information. I/we confirm that, to the best of my/our knowledge, any facts stated are true and accurate and any opinions given are the genuine opinions of the person(s) giving them.

☒ Date



320120953P

BOOTHS

project Extension to Booths Supermarket
Berry Lane
Longridge

by JRB DS 2012.01.10 scale 1:1250 sheet size A3

title Location plan

33024 job no / dep. no revision

- 5432 L(00)05 -



Design and Access Statement

Project Reference: 5432
Project Description: Booths Longridge ventilation and fence
Client: Booths
Date: 11 January 2012
Revision (3, dated 6 September 2012)

Background

Further to planning approval 3/2011/0475 approved on 12 August 2011, and subsequent submission for fence alterations under planning portal reference PP-01691039, we have received preliminary comments from Mr Graeme Thorpe of Longridge Council Planning department that the relocated air intake duct would need planning permission. In addition to this Longridge council and Booths head office have received comments regarding the newly installed acoustic fence.

As a consequence of dealing with these issues, we also wish to highlight additional proposed works and improvements

For clarity, this proposal is for the following actions:

Fence – to take in comments from local residents, Planning, both our and Booths Health and safety advisors

Existing Air intake relocation – to take in comments from Planning and neighbours

Trolley bay design – to give Planning more information on what the previously approved trolley bay will look like

Satellite dish installation – to give Planning more information on the dish for lottery installation

Re-grading macadam road by exit – goods vehicles currently bottom out upon exit and so use the entrance. Both our and Booths Health and Safety advisors state this is too great a risk and must change.

Extract from preparation area

Heritage Statement

We are aware the east wall of the Booths supermarket is the only surviving part of Crumpax Mill

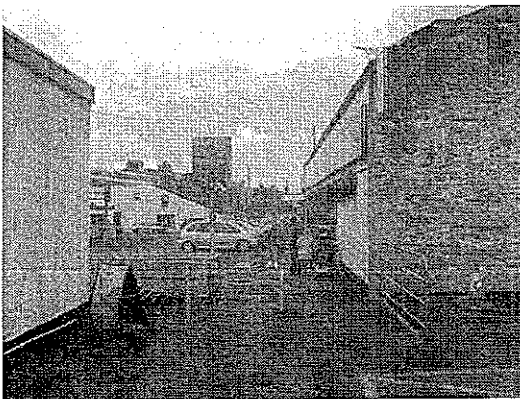
The items above have no affect on this wall. The following is for information only



The Crumpax Mill wall prior to works taking place



Images of the wall after lean to building removed, wall washed down and re-pointed in lime mortar



Works adjacent Fence



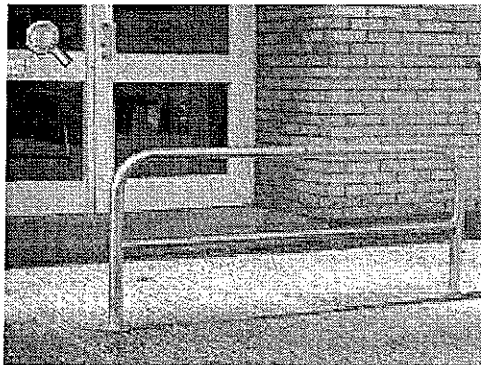
This image shows the currently installed acoustic fence. The fence height and length was discussed and agreed with 14 Birchfield Drive. Conversations between Booths contractor and 14 Birchfield have been positive and we understand these neighbours are happy with the fence.

Following discussions with Graeme Thorpe of Ribble Valley Planning we understand complaints from other neighbours have been forwarded.

These include complaints from a neighbour who has noted delivery vehicle lights are beamed through their window. Booths have instructed their delivery drivers to dip their headlights when reversing to reduce this.

A second point raised that local children have been playing around the HGV's.

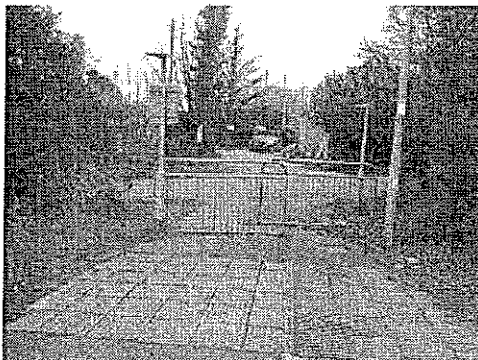
Thirdly, complaints have been made that the deliveries are still noisy. There had been a construction problem at the door threshold where cages were bouncing over a small kerb. This has now been planed flat.



Revision 3

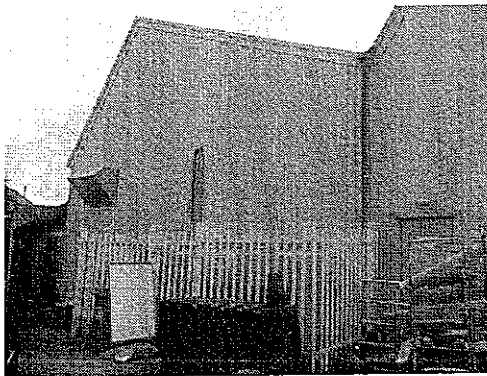
Following meeting with Mr Graeme Thorpe of Ribble Valley Council and the local residents on 3 September 2012 the following strategy was agreed:

The existing path be retained and a dual barrier arrangement similar to the photo left and arrangement lower left. This has been indicated on drawing L(00)02 and is designed so that mainly children have to stop and think before running directly onto the car park; also to slow bicycles and mopeds which have been using the path. The space inbetween, whilst generous, allows passing wheelchairs or prams.



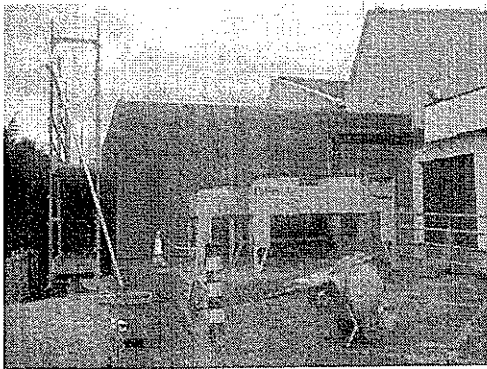
Additional signage will be added to the fence as a constant reminder to delivery drivers to be considerate of the neighbourhood.

Relocation of air intake duct



This image shows the existing air intake duct which has needed to move up and right to miss the structure of the new extension.

The image also shows the existing external plant enclosure which will be reused for the new plant, as shown on planning application 2011/0475



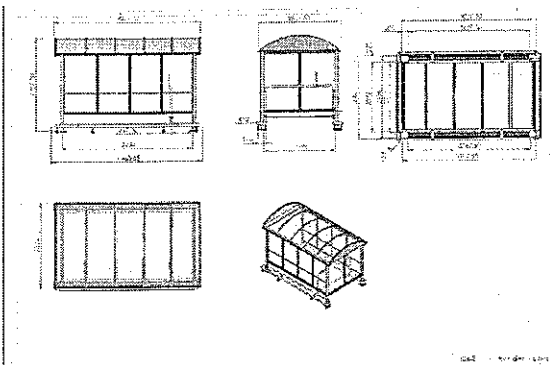
This image shows the location of the plant shown on the above application. It also shows that the new location of the air intake duct cannot be seen from the front of the site.

It finally shows the pipework from these condensers which will be hidden behind the fascia, and by a rendered top hat section to the front of the vertical pipes, painted cream to match existing.

The existing and new location of the air intake duct are shown on drawing 5432 L(1)-02 and 5432 L(2)-05. This duct is an air intake duct which provides fresh air to the store. This is not an extract, and produces negligible noise.

Trolley Shelter

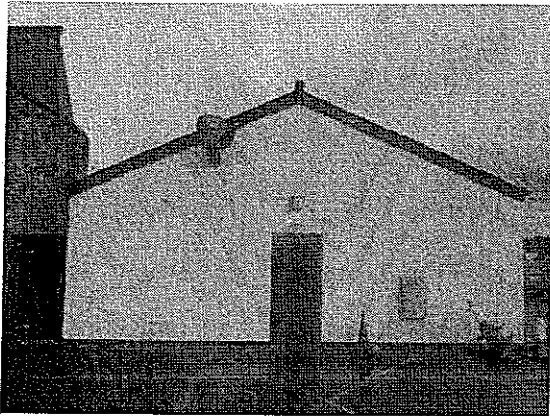
The location and approximate size of this was previously approved under 3/2011/0475. The following show additional information and aesthetics.



This image shows the proposed design of the enclosed trolley shelter as shown on the car park layout.

This is shown on drawing 5432 L(00)02 and full size details have been issued as a separate document

Satellite Dish



This image shows satellite dish which has been installed to provide Lottery counter within the sales area. This has been shown on the elevations of drawing 5432 L(1-02)

Re-grade of Macadam car park exit



This image shows the main car park exit. The large scratches on the macadam show that the HGV's are bottoming out on the hump. We proposed to plane the macadam to reduce this hump.

Extract from preparation area

The Booths store offer will include raw meat, raw fish, deli, cheese, olives, bread, cooked counter, which were shown on the previous application. These need an extract, situated behind the parapet of the recently built extension. This has been shown on drawings 5432 L(1-05), and a series of additional documents relating to the extract kit.

A matching situation has previously been installed at Booths Fulwood. This is a store also within a built up residential area, where there have been no complaints due to noise or smell.

Revision 3

Following meeting with Graeme Thorpe of Ribble Valley Borough Council on 3 September 2012 we have asked the installer to fit additional treatment to reduce the noise and odour from the equipment in order to answer comments from the Environmental Health officer Mr Neil Martin.



Revision 4

Further to discussion with Matthew Riding of Ribble Valley council mid September 2012, a letter of complaint due to smell had been received.

Our Mechanical installer has commented as follows:

"We will replace the existing baffle filters within the canopy with carbon filters; this will help to reduce the smells exhausted to atmosphere"

Store access and exits

The main Booths Longridge store and warehouse entrance and exits will remain unchanged.

Drainage

The above items make no change to the drainage situation.

High Temperature Extract Fans Centrifume (CFR) - Roof Mounted Kitchen Hood Extract

320120953 P

1.1. General

A. Provide a roof mounted kitchen hood extract fan unit to meet the performance and configuration as indicated in the schedule and detail drawings. The roof mounted kitchen hood extract fan unit shall conform to AMCA standard 211 and 311. The unit shall be of the Centrifume roof mounted kitchen hood extract fan type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2. Unit Construction

A. The unit shall be provided pre-assembled comprising of a heavy-gauge aluminum case with a rigid internal support structure, centrifugal backward curved fan without scroll, and belt driven motor mounted out of air stream on a heavy gauge steel drive frame assembly.

B. the case shall be constructed with a one-piece leak proof wind band with an integral rolled bead for added strength and shall be joined to the curb cap with a continuously welded seam.

C. The unit shall be suitable for mounting on a horizontal roof curb upstand.

D. The case shall include a removable lid for motor & drive access and maintenance.

E. The unit shall be provided with a grease & water collection system incorporated into the case design, including a built-in discharge spout with support for an optional collection trough.

F. The unit casework shall incorporate a high quality leak resistant gasket on top access cover.

1.3 Fan

A. The fan impeller shall be centrifugal backward curved, constructed of aluminum and shall include a wheel cone carefully matched to the inlet eye for precise running tolerances. The impeller shall be statically and dynamically balanced to AMCA Standard 204-05, and be tested to ANSI/AMCA Standard 210-99 and AMCA Standard 300-96.

B. The unit shall be available with a High Pressure alternative impeller where the schedule specifies duty points beyond the capabilities of the standard impeller.

1.4. Motor

A. The motor shall be heavy-duty ball bearing type carefully matched to the fan load and supplied at the specified voltage, phase, and enclosure as indicated in the schedule and detail drawings.

B. Motors shall be readily accessible for maintenance

C. The motor support frame shall be thermally insulated from the casework with a foil reinforced barrier sheet.

D. Motors and drives shall be mounted on anti vibration mounts, out of the air stream where no steel-to-steel contact between rotating components and the base shall occur

E. Fresh air for motor cooling shall be drawn into the motor compartment through a ten- square-inch tube free of discharge contaminants

F. Optional two speed motors shall be available on request as indicated in the schedule and detail drawings.



1.5. Drives

- A. Motors and drives shall be mounted out of the air stream and be suitable for servicing without disturbing the roof mounted housing.
- B. Precision ground and polished fan shafts shall be mounted in permanently sealed, lubricated pillow block ball bearings.
- C. Bearings shall be selected for a minimum L10 life in excess of 100,000 hours (L50 average life in excess of 500,000 hours) at maximum cataloged operating speed.
- D. Drives shall be sized for a minimum of 150 percent of driven power.
- E. Pulleys shall be of the fully machined cast iron type, keyed and securely attached to the wheel and motor shafts.
- F. Motor pulleys shall be adjustable for final system balancing.

1.6. Operation Environment

- A. The unit shall be designed to operate in ambient temperatures from 0°C up to 190°C, and can run continuously at up to 100% humidity level.

1.7. Controls

- A. The units shall be fully compatible with inverter speed control for single and three phase supply.
- B. The inverters shall be provided with a pre-programmed remote fan speed controller.
- C. The unit shall be fully compatible with two speed controllers for three phase two speed motors mounted as indicated in the schedule and detail drawings.

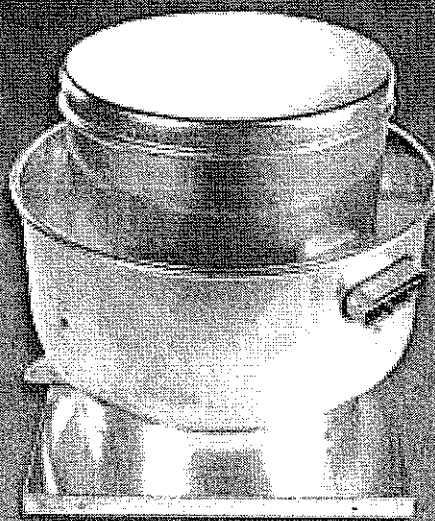
1.8. Ancillaries

- A. The unit shall be fully compatible with a standard range of duct-mounted silencers.
- B. The silencer shall be a rigidly constructed single skinned galvanised sheet steel case lining incorporating internal splitting vanes lined with resin bonded mineral wool and polythene for ease of maintenance.
- C. The silencer shall incorporate removable interior splitters via a sealed service panel for ease of inspection & maintenance.
- D. The silencer casework shall be provided naturally finished in high quality galvanised steel as standard. Optional powdercoated finish as standard Signal Grey to RAL7004. Colour to be in accordance with schedule.
- E. The unit shall be available with optional backdraught shutters suitable for duct mounting prior to the unit.
- F. The unit shall be compatible with optional profiled soaker sheet bases.
- G. Ancillaries shall be of the Centrifume (CFR) type as manufactured by VES Andover Ltd.
- D. The unit shall be supplied with a pre-wired motor isolator as standard. The isolator shall be externally.

Download specification from www.ves.co.uk/information-centre

CENTRIFUME

The Kitchen Extract Fan Range



**Roof and Duct
Mounting Units**

**For High Temperature
Polluted Air**

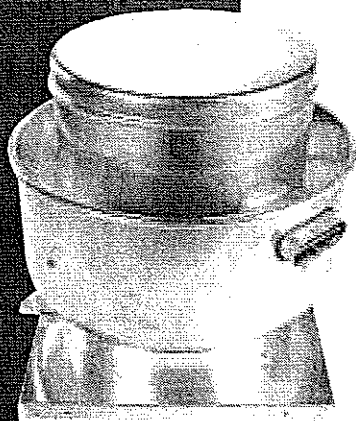
**Volumes from
0.2 to 9.5m³/sec**

Unique Design Features

With



You Breathe Easy



Model CFR Unit

Centrifume

The Centrifume fans have been designed to meet the arduous conditions found in restaurant kitchen hood extract systems - hot air with high grease content.

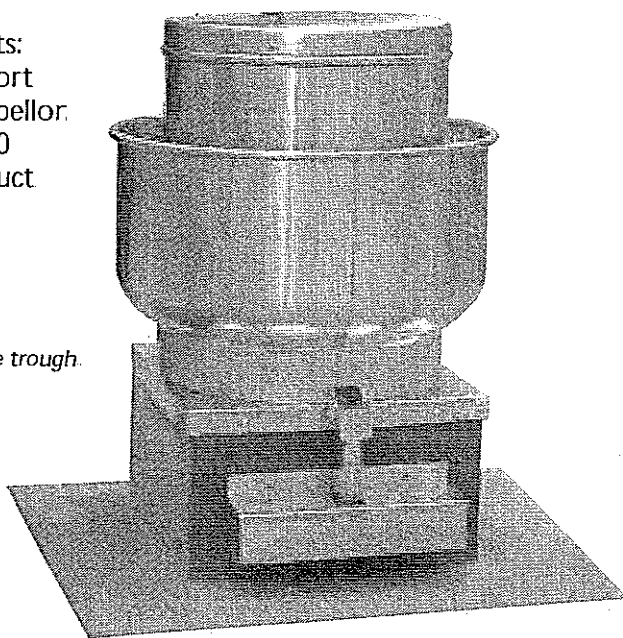
The Centrifume is also suitable for many other air extract systems providing a wide range of volume and pressure options plus low speeds for super-quiet requirements.

The Centrifume sets industry standards with superior design and engineering build quality.

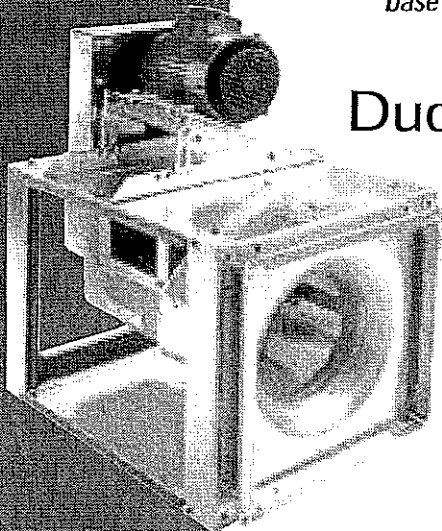
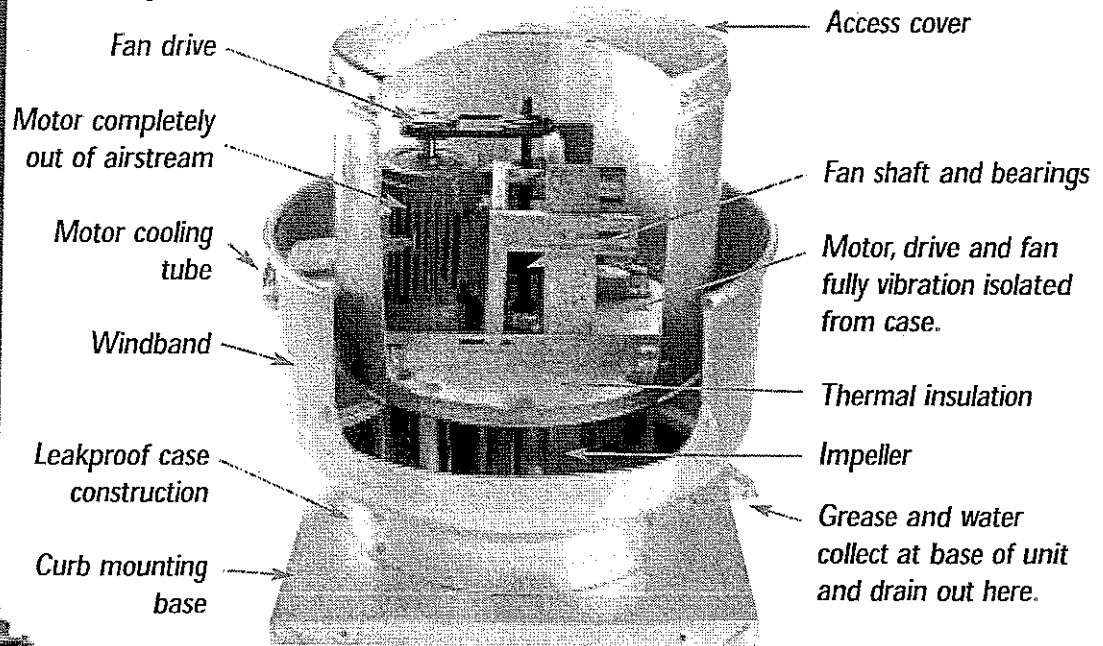
Look at these Features:

- Maximum continuous operating air temperature 190°C.
- The motor and drive completely out of the airstream, with motor cooling ducted from atmosphere.
- Two types of impeller are offered, Standard (STD) and High Pressure (HP). When making selection, check fan speed, motor power and noise levels for best selection.
- Very low noise levels achievable within occupied zone.
- The outlet velocities can be selected to ensure that contaminants are discharged well clear of surroundings.
- The cases are leakproof and heavily built of rolled aluminium. A bird screen is fitted within the windband. The cases can be supplied with powder coated finish if required, standard colour light grey to BS 00A05, other colours available.
- The motor and drive is easily accessible for maintenance via the removable cover.
- Grease, water and any other liquid effluent drain to the base of the roof unit for collection in the optional drain trough.
- All units have been tested to AMCA procedures, providing certified air performance and sound levels.
- Ancillaries include profiled soaker sheet bases for the roof units and backdraught shutters for mounting in the duct before the unit.
- Also available on CFR roof units:
 - 75mm diameter clean out port on windband adjacent to impellor.
 - Hinge kit up to size CFR 240 to enable access to top of duct.

CFR unit with fitted grease trough.



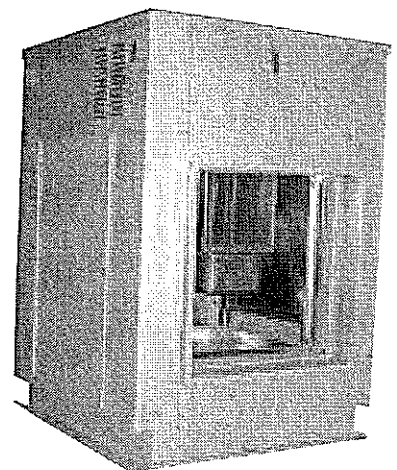
Unit Components



Duct Mounting Unit

The CFD is a duct mounting unit with motor out of airstream. The backward curved impeller is mounted in a single skinned square housing. A grease collection tray can be fitted into the unit if required. The duct mounting case can be fitted with an external acoustic cladding to minimise noise breakout. Weatherproof housing with acoustic lining also available.

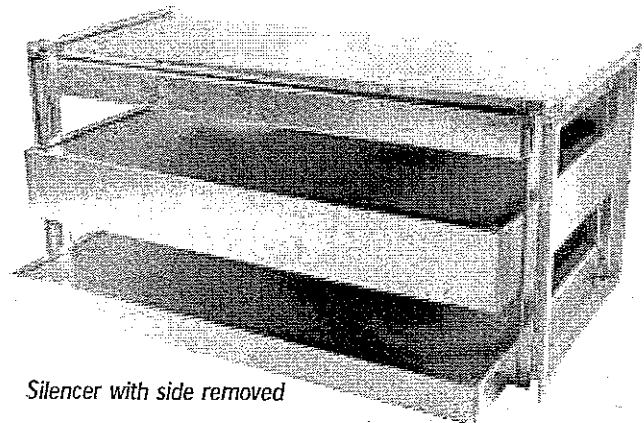
Go to pages 13-22 for details, dimensions, and selections.



Weatherproof housing

Silencers

- A range of unique cleanable silencers is available for all units. A removable side panel reveals the acoustic splitters which can be withdrawn for cleaning with steam or power washer. The splitters contain resin bonded mineral wool slab that has been heat shrink sealed into polythene enclosures, and fitted into modules of perforated galvanised sheet steel. These are completely waterproof.
- The silencers have been designed for duct mounting in horizontal or vertical mode and the removable access panel can be positioned on side, top or bottom as required.
- Silencers are also available in non-cleanable construction for uncontaminated extract systems. Selection details on page 23.



Silencer with side removed

Technical Details

0.18kw and 0.25kw motors are supplied single phase as standard, and up to 1.5kw motors are also available in 230 volt single phase. In 415 volt three phase both single and two speed motors are available. All units can be supplied with an inverter for fan speed control. For details of motors, inverter control, isolators and starters see page 24. Run and standby motors can be supplied in the larger case sizes. The CFR roof unit motor is prewired to a fitted local isolator.

The fan has an aluminium backward curved non-overloading centrifugal impeller. The drive shaft bearings have a life expectancy in excess of 100,000 hours, and on the CFR roof units, the drive assembly is fully vibration isolated from the case.

The impeller is spark proof and a flameproof motor can be supplied.

The single figure noise levels SPL dBA are the sound pressure levels at 3.0 metres from the unit.

To select the unit you require:

The fan performance data for the CFR roof units are detailed on pages 4 to 11.

The duct mounted units model CFD have fan performance selections on pages 14 to 17.

When selecting a unit compare noise levels for different sizes and speeds if sound level is an important consideration.

The sound spectrum stated is for a selection at the mid-duty point of the fan curve, the sound level at your actual duty point will be advised on your quotation or on request.

Specify the unit details:

Model	CFR	140	-	HP	/	1500 RPM	/	3 Phase.
	Roof or Duct Unit	Size		Standard or High Pressure Unit		Fan Speed		Motor Voltage

And note any other requirements-

- Fitted isolator.
- Drain trough for grease collection.
- Two speed motor.
- Fan Speed control with inverter.
- Powder coated case finish.
- Duct mounting backdraught shutters.
- Soaker sheet base - state roof profile, and angle of roof.
- Silencer to suit.

Technical Details

0.18kw and 0.25kw motors are supplied single phase as standard, and up to 1.5kw motors are also available in 230 volt single phase. In 415 volt three phase both single and two speed motors are available. All units can be supplied with an inverter for fan speed control. For details of motors, inverter control, isolators and starters see page 24. Run and standby motors can be supplied in the larger case sizes. The CFR roof unit motor is prewired to a fitted local isolator.

The fan has an aluminium backward curved non-overloading centrifugal impeller. The drive shaft bearings have a life expectancy in excess of 100,000 hours, and on the CFR roof units, the drive assembly is fully vibration isolated from the case.

The impeller is spark proof and a flameproof motor can be supplied.

The single figure noise levels SPL dBA are the sound pressure levels at 3.0 metres from the unit.

To select the unit you require:

The fan performance data for the CFR roof units are detailed on pages 4 to 11.

The duct mounted units model CFD have fan performance selections on pages 14 to 17.

When selecting a unit compare noise levels for different sizes and speeds if sound level is an important consideration.

The sound spectrum stated is for a selection at the mid-duty point of the fan curve, the sound level at your actual duty point will be advised on your quotation or on request.

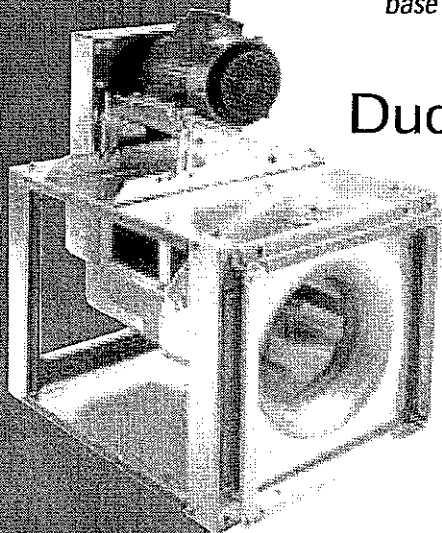
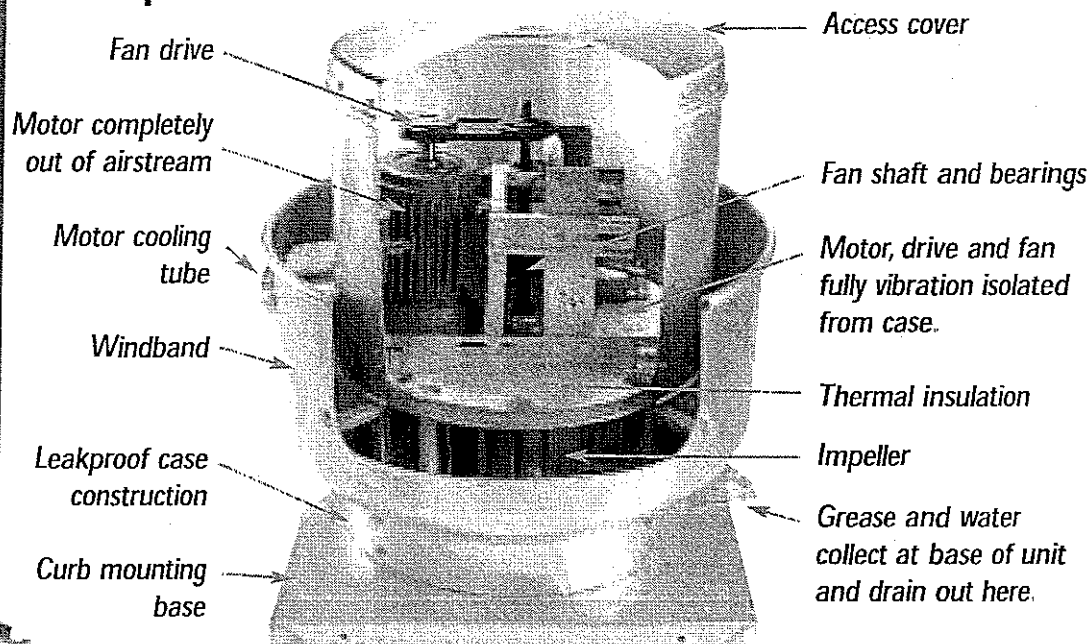
Specify the unit details:

Model	CFR	140	-	HP	/	1500 RPM	/	3 Phase.
	Roof or Duct Unit	Size		Standard or High Pressure Unit		Fan Speed		Motor Voltage

And note any other requirements-

- Fitted isolator.
- Drain trough for grease collection.
- Two speed motor.
- Fan Speed control with inverter.
- Powder coated case finish.
- Duct mounting backdraught shutters.
- Soaker sheet base - state roof profile, and angle of roof.
- Silencer to suit.

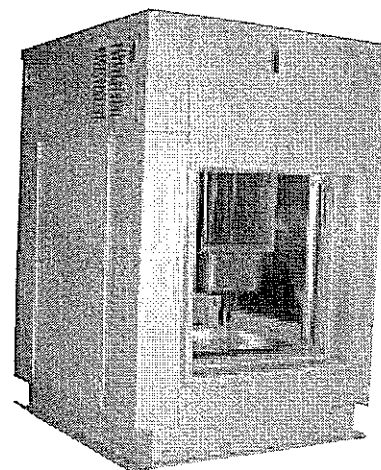
Unit Components



Duct Mounting Unit

The CFD is a duct mounting unit with motor out of airstream. The backward curved impeller is mounted in a single skinned square housing. A grease collection tray can be fitted into the unit if required. The duct mounting case can be fitted with an external acoustic cladding to minimise noise breakout. Weatherproof housing with acoustic lining also available.

Go to pages 13-22 for details, dimensions, and selections



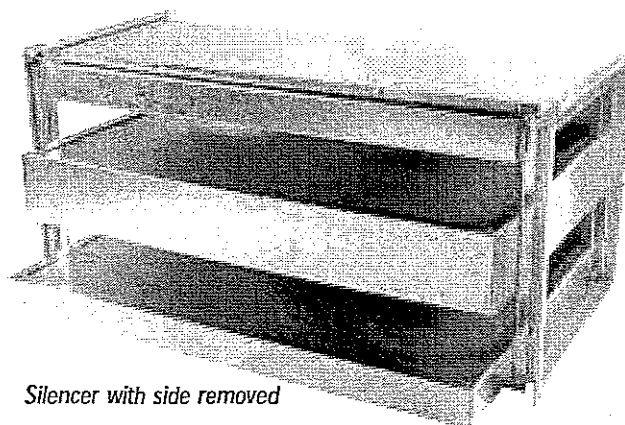
Weatherproof housing

Silencers

- A range of unique cleanable silencers is available for all units. A removable side panel reveals the acoustic splitters which can be withdrawn for cleaning with steam or power washer. The splitters contain resin bonded mineral wool slab that has been heat shrink sealed into polythene enclosures, and fitted into modules of perforated galvanised sheet steel. These are completely waterproof.

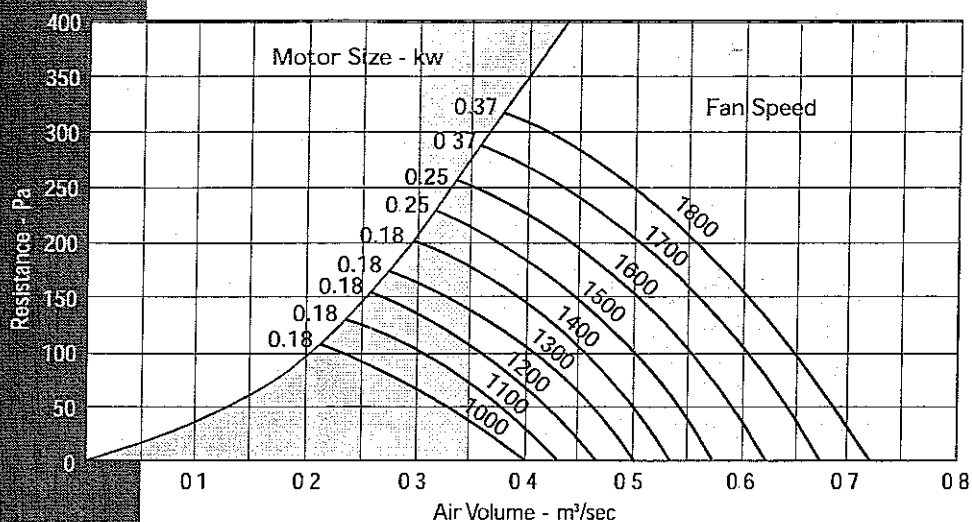
- The silencers have been designed for duct mounting in horizontal or vertical mode and the removable access panel can be positioned on side, top or bottom as required.

- Silencers are also available in non-cleanable construction for uncontaminated extract systems. Selection details on page 23



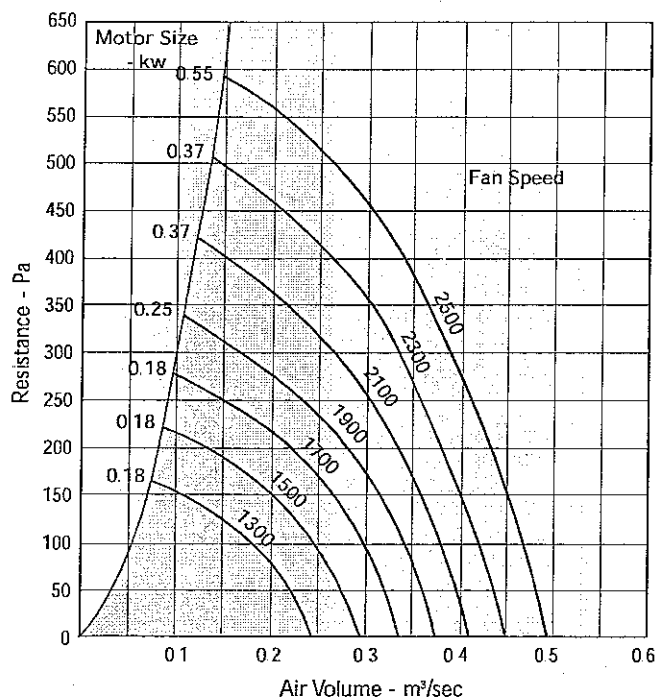
Silencer with side removed

CFR 100 - STD

Unit
Dimensions
Page 12

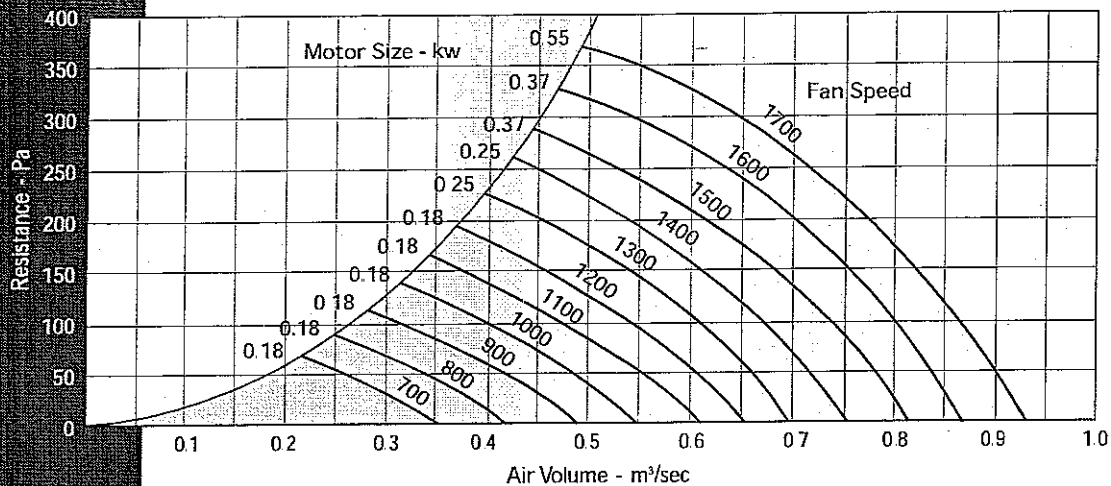
Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
100 - STD	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
1000	67	66	66	57	51	49	44	37	44
1100	65	69	68	59	54	52	47	41	46
1200	66	70	70	61	57	55	50	44	48
1300	66	69	71	62	57	56	51	45	49
1400	69	70	74	64	60	59	54	48	51
1500	73	71	77	67	62	63	57	51	54
1600	74	72	77	68	62	63	58	52	55
1700	73	73	78	71	64	65	59	53	56
1800	71	74	77	72	64	65	60	54	56

CFR 100 - HP



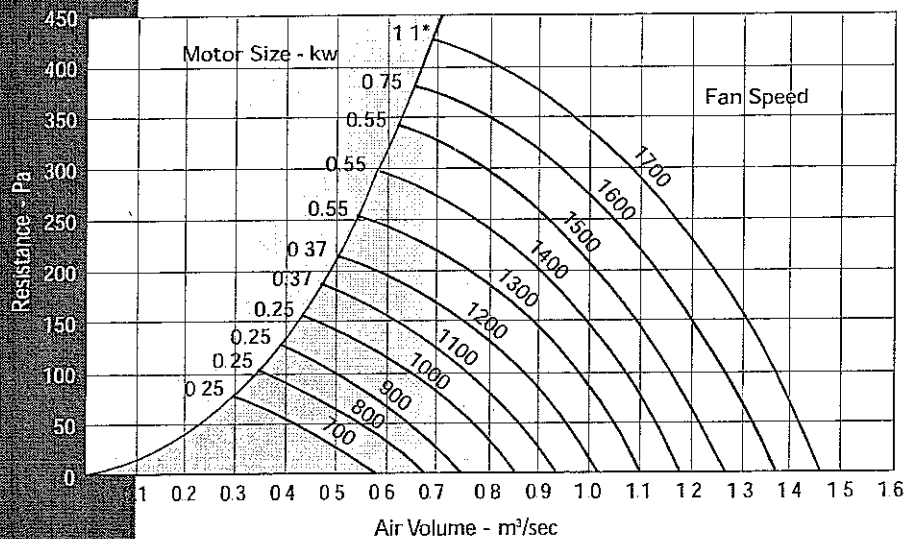
Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
100 - HP	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
1300	79	72	61	52	57	52	44	40	45
1500	79	73	66	62	61	58	53	50	50
1700	80	76	69	66	64	60	55	51	52
1900	83	79	71	71	68	62	58	55	56
2100	81	80	72	73	69	63	59	56	57
2300	79	80	71	73	69	65	61	59	59
2500	79	78	71	75	70	68	63	63	59

CFR 120 - STD



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
120 - STD	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
700	71	66	62	53	51	51	39	36	42
800	71	67	65	55	53	53	42	37	44
900	70	68	67	57	54	55	44	39	46
1000	70	70	69	59	56	57	46	40	48
1100	70	71	71	61	58	59	49	41	50
1200	73	74	75	64	60	61	52	44	53
1300	75	76	79	66	62	63	54	46	56
1400	76	78	82	68	64	65	56	48	58
1500	78	79	84	70	65	66	58	50	60
1600	80	80	86	72	67	67	61	53	63
1700	81	81	89	74	69	68	63	55	65

CFR 140 - STD

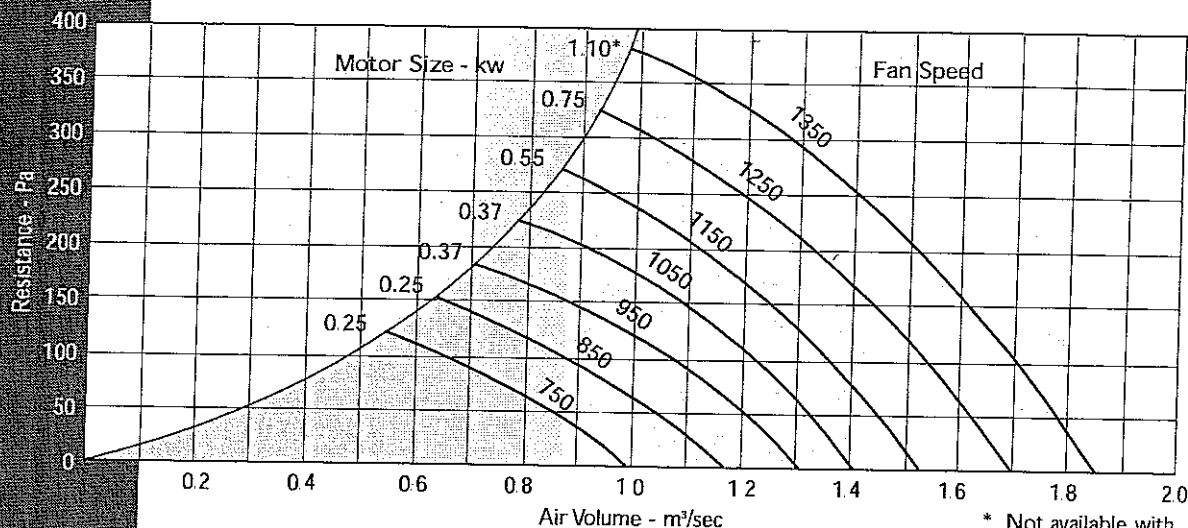


Unit
Dimensions
Page 12

* Not available with
230 volt 1 phase
motor.

Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
140 - STD	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
700	69	71	59	54	59	46	39	30	44
800	68	74	62	57	60	50	42	35	47
900	68	76	65	60	61	54	46	40	48
1000	69	78	69	64	62	59	50	45	47
1100	69	80	73	67	62	63	54	49	54
1200	71	80	75	69	64	65	56	51	56
1300	72	80	78	71	65	68	59	53	58
1400	72	78	78	72	65	64	59	54	57
1500	72	75	80	75	67	59	61	56	59
1600	73	63	85	77	68	55	61	59	62
1700	73	64	85	79	69	50	63	60	63

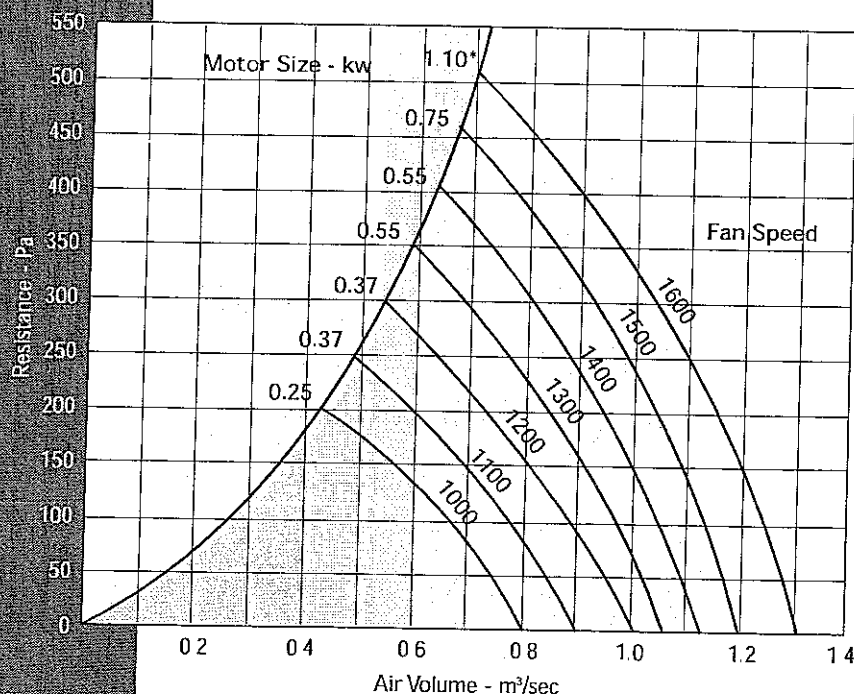
CFR 160 - STD



230 volt 1 phase motor

Model 160 - STD	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
	Fan Speed	63	125	250	500	1K	2K	4K	
750	68	74	68	63	63	59	53	48	51
850	70	76	71	67	65	62	56	51	54
950	72	78	74	71	67	64	59	55	56
1050	73	79	76	73	68	66	61	57	58
1150	74	79	78	76	70	67	64	60	60
1250	75	80	80	78	72	69	66	63	62
1350	76	82	83	81	73	72	68	66	65

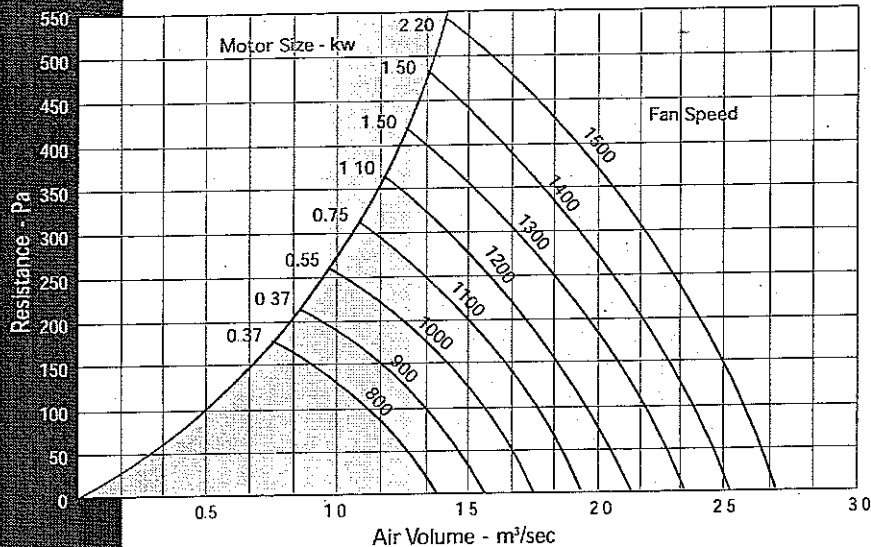
CFR 160 - HP



Model 160 - HP	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
	Fan Speed	63	125	250	500	1K	2K	4K	
1000	72	77	74	67	62	62	56	48	53
1100	72	80	77	70	64	64	60	53	56
1200	73	79	78	72	66	66	64	56	58
1300	74	74	77	73	68	67	66	59	59
1400	76	75	79	73	69	69	68	62	60
1500	77	76	81	73	69	70	69	63	61
1600	79	77	85	74	72	72	73	67	64

MAKE SELECTION

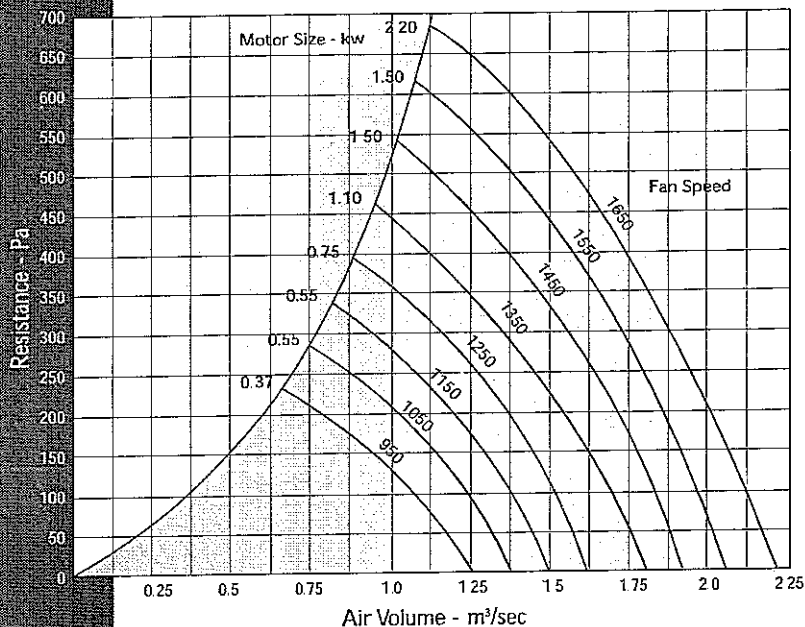
CFR 180 - STD



Unit
Dimensions
Page 12

Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
180 - STD	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
800	70	78	73	65	61	60	53	45	53
900	72	80	78	69	64	64	57	51	56
1000	75	79	82	74	67	71	62	54	61
1100	76	80	84	75	68	71	64	56	62
1200	78	80	85	75	69	69	65	57	63
1300	78	81	86	77	72	70	66	61	64
1400	80	83	89	79	74	73	68	65	67
1500	81	84	91	81	77	75	70	69	69

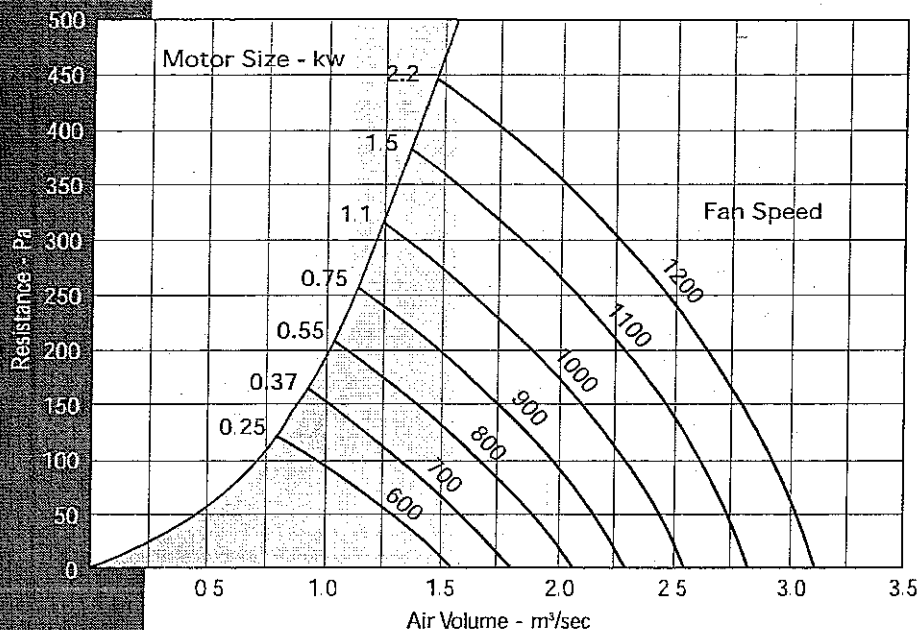
CFR 180 - HP



Model 180 - HP	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
950	81	78	77	70	61	60	55	51	55
1050	84	78	79	74	65	63	59	54	58
1150	82	77	81	74	68	66	61	56	59
1250	78	76	83	72	69	68	63	58	61
1350	79	78	86	75	72	71	67	61	64
1450	81	80	88	79	75	74	70	64	66
1550	84	80	88	82	75	74	71	65	67
1650	88	81	88	85	75	74	72	67	68

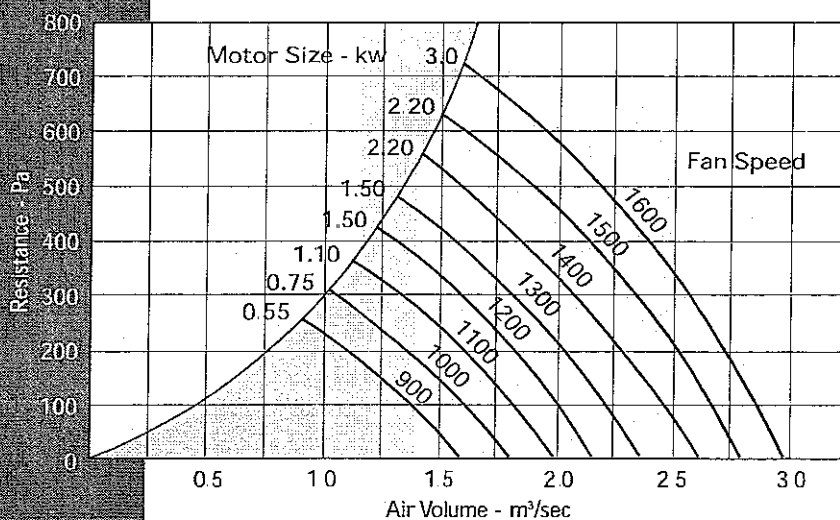
MAKE SELECTION

CFR 200 - STD



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
200 - STD	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
600	70	72	68	61	56	54	48	41	
700	72	76	73	66	59	59	53	46	
800	75	81	78	71	62	63	57	51	
900	78	83	80	72	65	65	60	54	
1000	77	82	85	76	68	68	64	58	
1100	78	82	89	79	71	71	67	62	
1200	87	83	88	79	73	73	69	64	

CFR 200 - HP

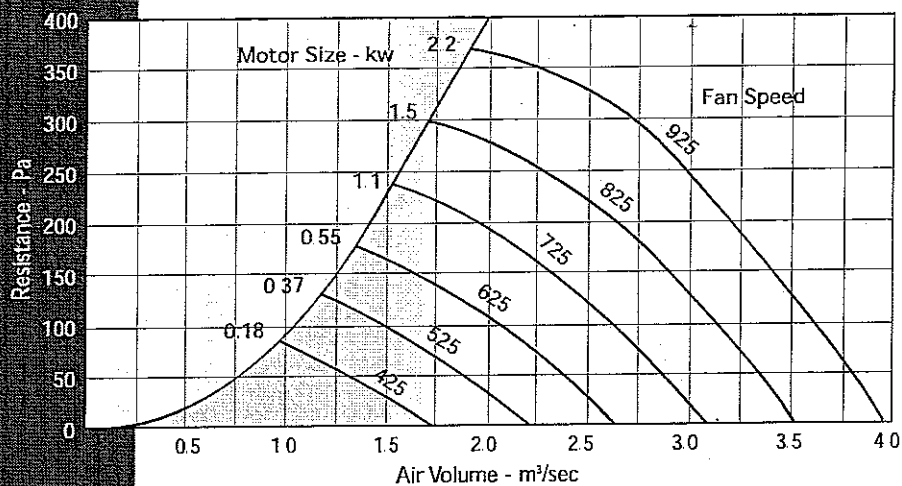


Model 200 - HP	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
900	73	76	75	71	63	62	58	52	
1000	75	76	79	78	67	66	62	56	
1100	77	77	82	80	71	69	65	59	
1200	79	80	85	80	74	72	67	62	
1300	81	82	87	79	77	74	70	65	
1400	80	80	88	81	79	76	71	67	
1500	80	79	89	83	81	78	73	69	
1600	82	78	95	84	82	79	74	72	

MAKE SELECTION

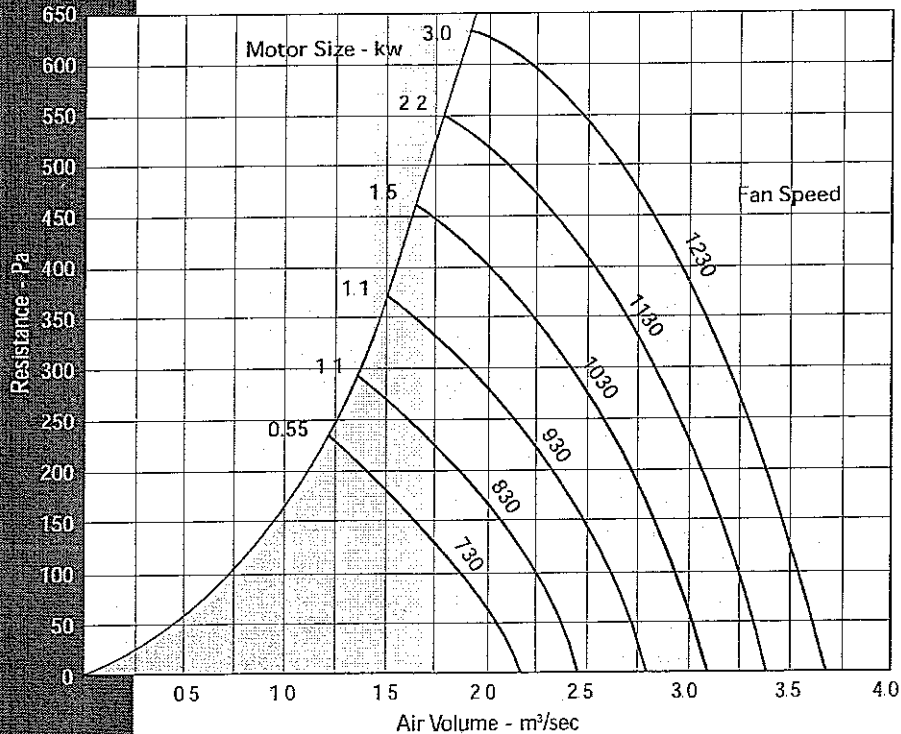
MAKE SELECTION

CFR 240 - STD



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
240 - STD	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
425	69	71	62	61	58	50	42	36	46
525	70	76	69	65	62	56	48	41	51
625	72	80	73	67	66	60	52	46	54
725	75	84	77	70	69	64	57	52	59
825	79	86	82	75	73	68	61	56	62
925	80	86	86	78	75	71	64	59	65

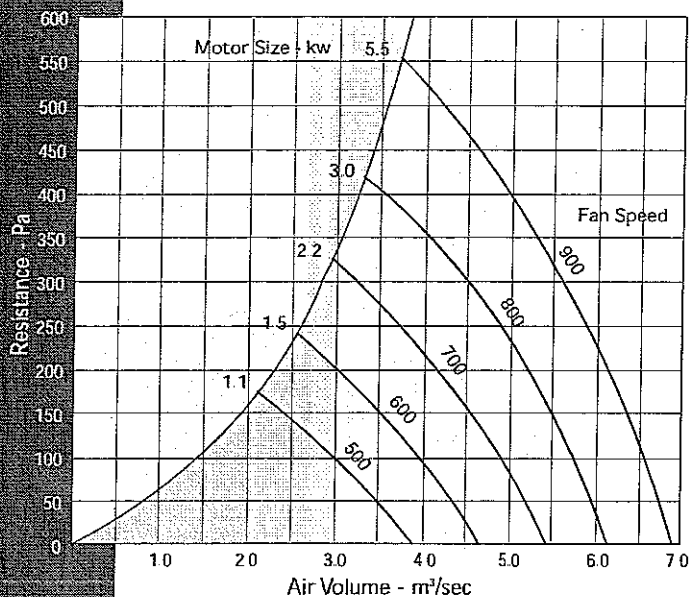
CFR 240 - HP



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
240 - HP	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
730	72	81	77	69	63	61	55	51	56
830	74	83	80	73	67	65	59	55	60
930	77	82	83	76	71	69	63	59	62
1030	79	82	86	79	74	72	67	63	65
1130	81	83	89	87	77	75	69	67	68
1230	80	81	91	82	76	75	69	68	69

MAKE SELECTION

CFR 300 - STD

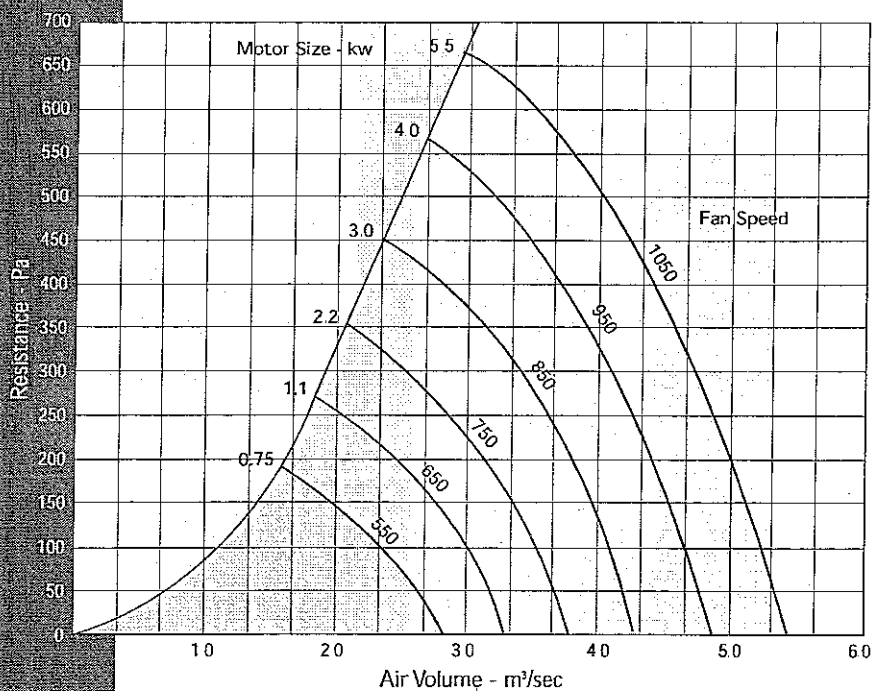


Unit
Dimensions
Page 12

MAKE SELECTION

Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
300 - STD	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
500	78	79	71	65	62	59	62	49	53
600	77	84	79	72	70	66	59	54	59
700	80	80	79	72	68	66	64	60	58
800	82	82	83	76	71	70	68	64	63
900	83	85	89	81	76	74	72	68	67

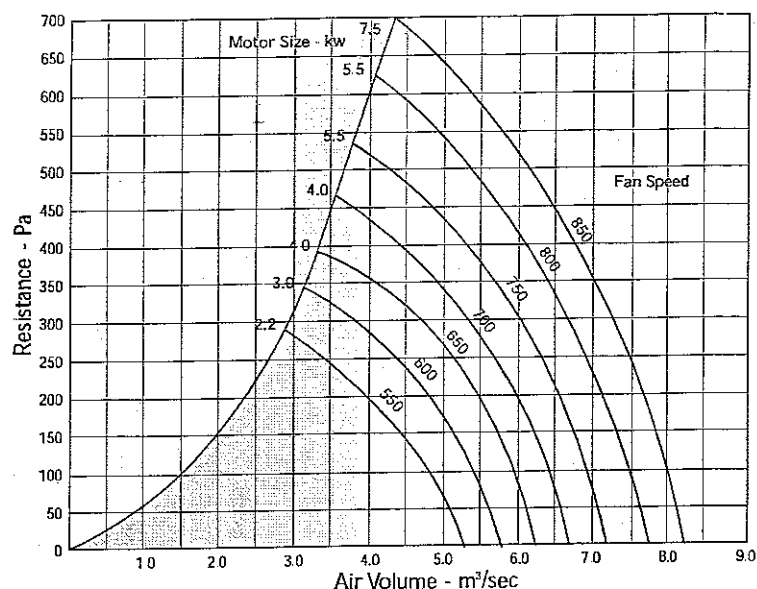
CFR 300 - HP



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
300 - HP	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
550	74	77	74	68	64	65	60	51	55
650	76	82	78	73	67	67	64	56	60
750	78	84	82	77	71	70	68	60	63
850	82	86	86	82	77	76	73	66	67
950	85	87	90	86	80	79	77	70	71
1050	87	88	93	90	83	81	79	74	74

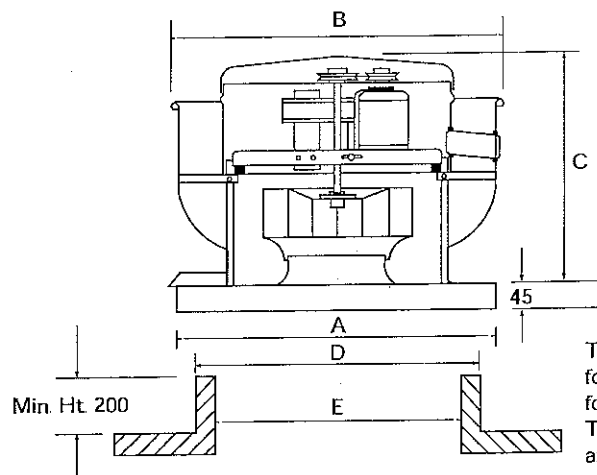
MAKE SELECTION

CFR 360 - HP



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
360 - HP	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
550	84	89	82	73	70	66	59	54	62
600	83	89	83	75	72	67	61	55	63
650	83	90	84	77	74	69	64	59	64
700	84	92	84	78	75	71	66	61	65
750	86	95	85	79	78	73	67	63	67
800	87	95	88	81	80	74	70	65	69
850	88	96	91	83	82	77	72	68	71

Model CFR - Roof Extract Unit - Dimensions



Curb Base Detail

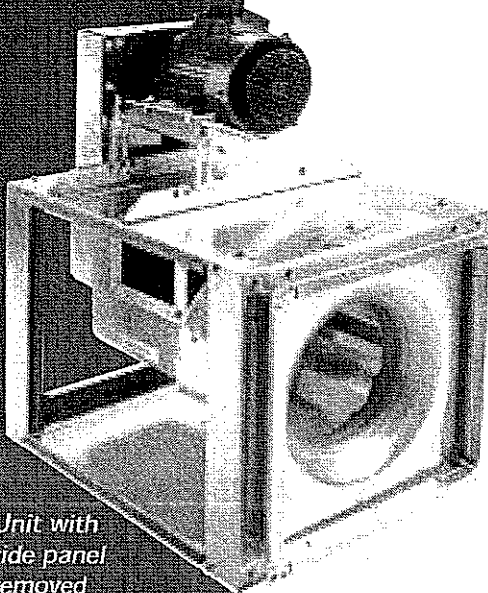
The CFR unit must be fitted onto a horizontal curb.
If profiled soaker sheet base is required advise angle of roof so that transition can be supplied

The dimension 'D' stated for the curb upstand allows for roof covering and flashing.
The curb height allows for water and grease collection vessel.

CFR Model	Dimensions - mm					Weight Kgs*
	A	B	C	D	E	
100-STD 100-HP 120-STD	483	630	762	445	345	26 30
140-STD 140-HP 160-STD 160-HP	558	730	800	520	420	38 39
180-STD 180-HP 200-STD 200-HP	760	900	815	720	570	57 64
240-STD 240-HP	860	1085	950	820	670	79
300-STD 300-HP	1010	1270	1016	970	820	142
360-HP	1168	1490	1095	1125	975	200

* Weight varies with motor size.

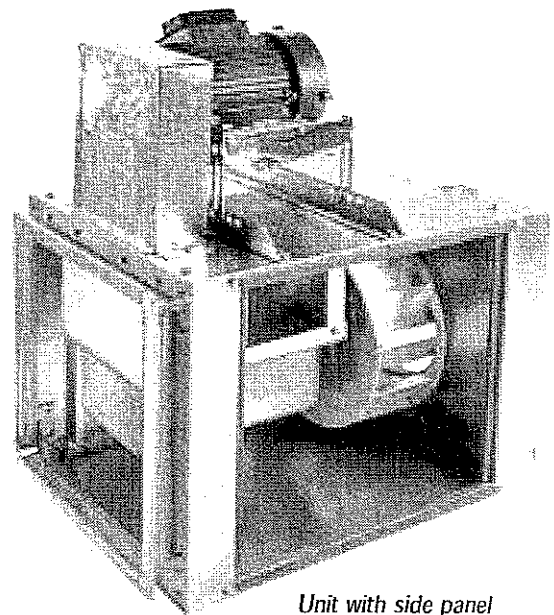
Duct Mounting Range - Model CFD



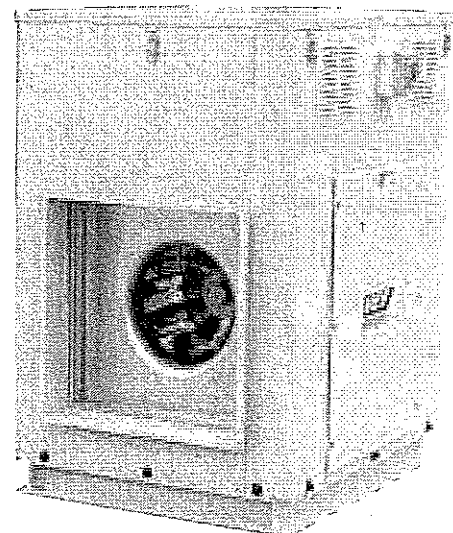
Unit with side panel removed

- For horizontal or vertical airflow, the unit case is flush panel single skinned with backward curved centrifugal non-overloading impeller, and motor and drive out of airstream.
- Because the motor is out of airstream the casing is very compact in size relation to the amount of air passed.
- When mounted horizontally the unit can be fitted with an integral grease collection tray and drain
- The motor can be located on the top, side, or below the unit.
- Single or two speed motors can be fitted, and inverter fan speed control is available for most units.
- Run and standby motors can be fitted.

- The case is ruggedly constructed to maintain the alignment of the rotating parts. Easy access is provided for inspection and service and cleaning via removable side panels. The motor, drive, impeller, shaft and bearings can all be serviced without disturbing the duct mounting housing.
- The standard case construction is galvanised sheet steel. This can be powder coated if required. The case can also be fitted with an effective external acoustic cladding, comprising 25mm thick foam with sandwiched noise barrier layer and reinforced aluminium foil outer skin.
- A belt drive guard is fitted as standard
- The drive shaft is ground and polished steel, mounted in heavy duty pillar block bearings.
- The unit is fitted with MEZ flanges for ductwork connection.
- Flexible connections, mounting feet and anti-vibration mounts are available.
- A weatherproof housing can be supplied, complete with acoustic lining, fitted silencers, outlet cowl and channel base. Standard colour light grey to BS00A05.
- Sound breakout noise levels are available for duct mounting and weatherproof units.

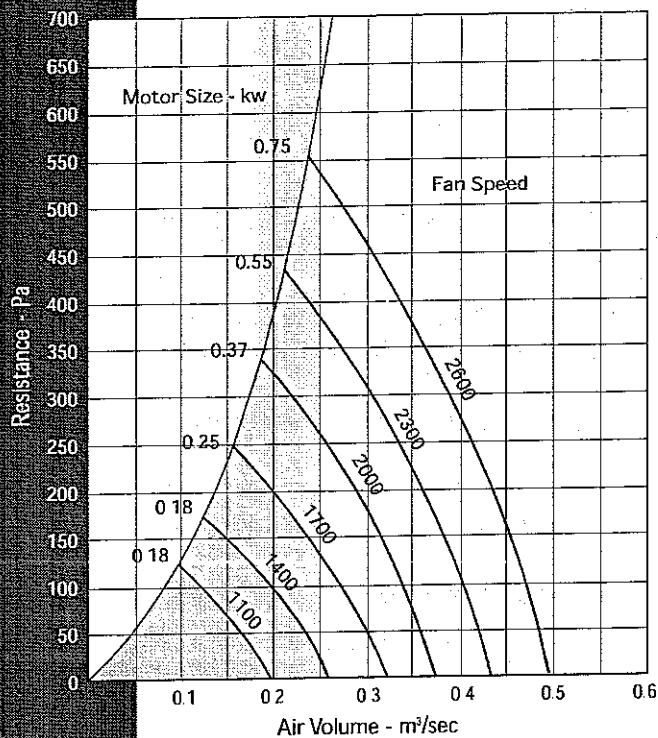


Unit with side panel removed showing impellor and drive guard



Unit in weatherproof housing.

CFD 80 - STD

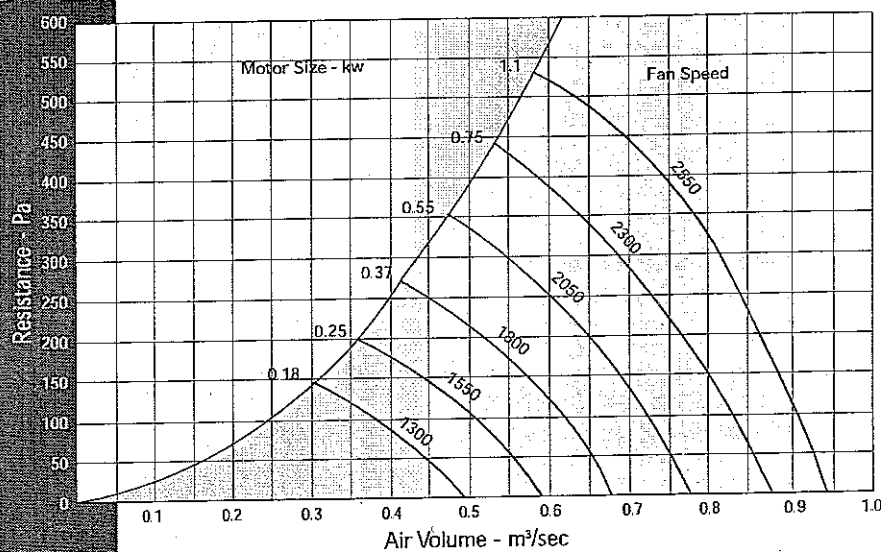


Unit
Dimensions
Page 21

MAKE SELECTION

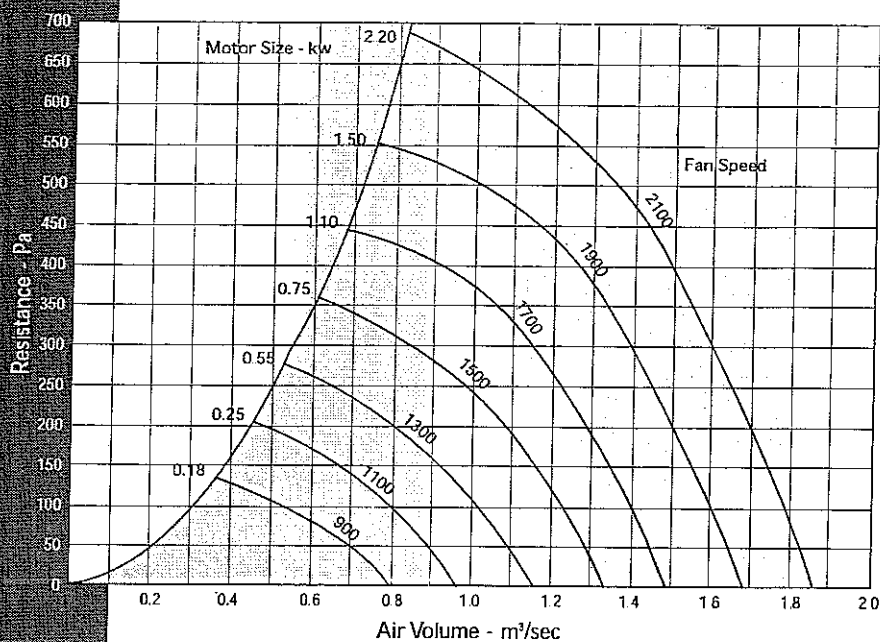
Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
80 - STD	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
1100	79	78	65	62	54	52	46	41	49
1400	79	81	72	70	60	57	55	49	54
1700	79	84	77	77	66	62	62	57	60
2000	80	85	78	83	72	66	66	65	65
2300	83	88	81	86	75	70	69	66	67
2600	87	91	84	89	78	73	72	68	70

CFD 100 - STD



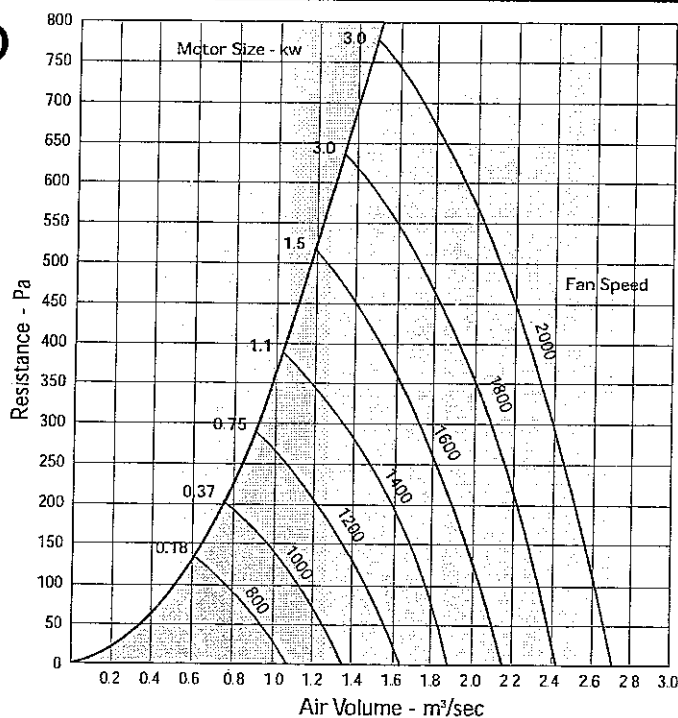
Model 100 - STD	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
1300	77	75	72	63	55	56	49	44	50
1550	78	83	76	74	63	60	59	52	57
1800	78	84	78	80	69	64	64	60	62
2050	79	86	81	83	74	68	68	68	66
2300	84	87	80	85	74	69	68	66	67
2550	86	89	83	88	76	72	70	68	69

CFD 140 - STD



Model 140-STD	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
900	72	70	73	62	53	53	53	42	49
1100	77	76	76	68	55	55	55	48	53
1300	80	80	80	75	65	63	59	54	59
1500	78	80	82	77	69	67	63	58	61
1700	79	81	83	79	72	70	66	62	63
1900	83	82	83	84	76	72	69	65	67
2100	88	84	84	90	80	76	72	69	72

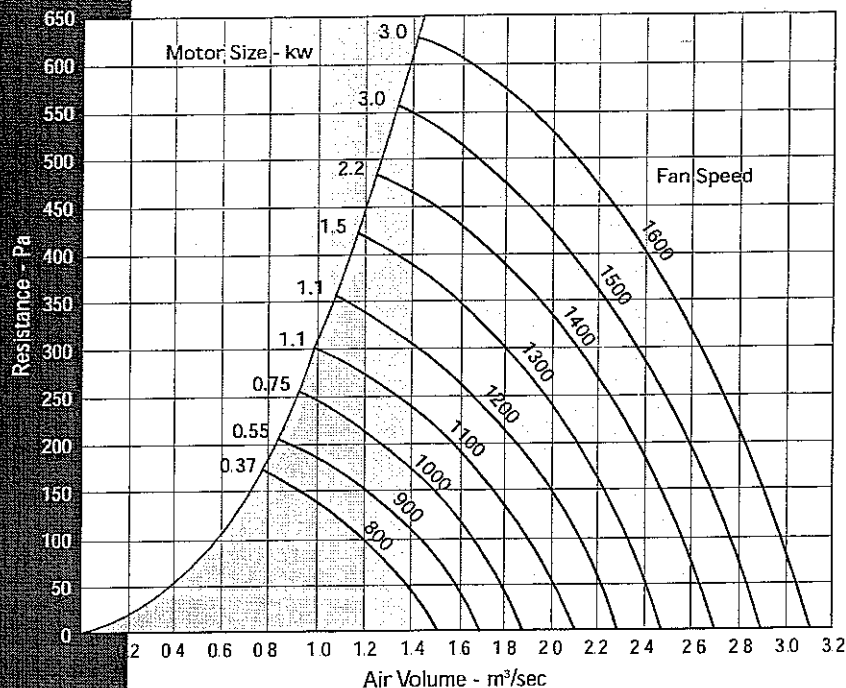
CFD 160 - STD



Model 160-STD	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
800	73	76	69	65	58	55	48	42	50
1000	75	76	74	71	62	60	55	51	55
1200	78	79	79	75	67	66	61	57	59
1400	80	82	84	79	71	70	66	61	63
1600	82	84	86	84	74	73	70	65	67
1800	85	86	89	89	77	76	73	69	71
2000	87	86	94	97	81	80	79	72	78

MAKE SELECTION

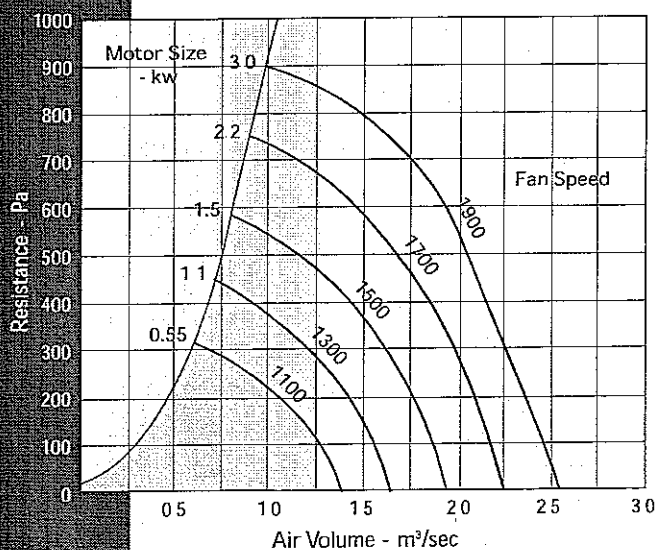
CFD 180 - STD



Unit
Dimensions
Page 21

Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
180-STD	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
800	76	78	77	70	62	57	52	48	55
900	76	78	78	72	63	60	55	51	57
1000	76	78	80	76	65	62	57	54	59
1100	78	79	82	77	67	65	60	57	61
1200	80	80	83	78	70	67	62	60	62
1300	83	81	84	79	72	70	65	63	63
1400	82	82	86	81	73	72	67	65	65
1500	83	83	88	83	76	74	69	67	67
1600	83	83	90	85	78	77	71	69	70

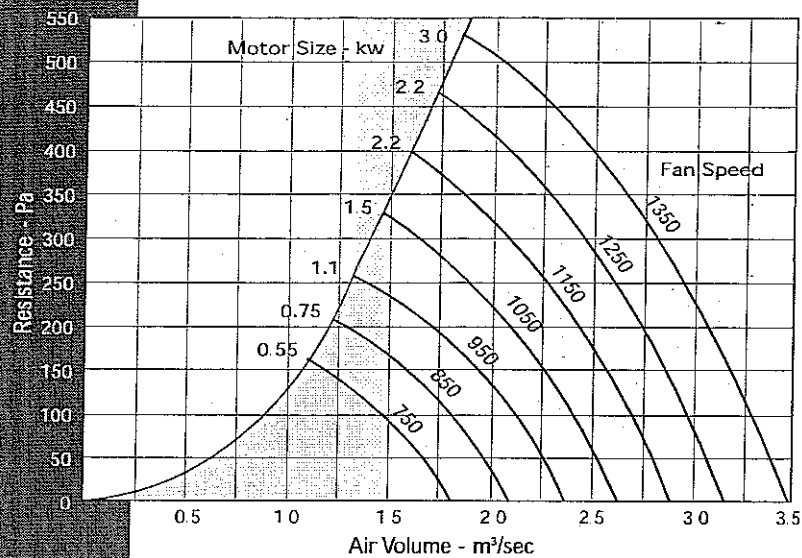
CFD 180 - HP



Model 180-HP	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m.
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
1100	80	78	75	70	65	60	55	52	55
1300	82	80	78	74	69	65	61	57	59
1500	84	81	81	78	73	69	66	62	63
1700	84	83	84	85	77	73	70	66	67
1900	84	84	87	92	79	76	73	69	73

MAKE SELECTION

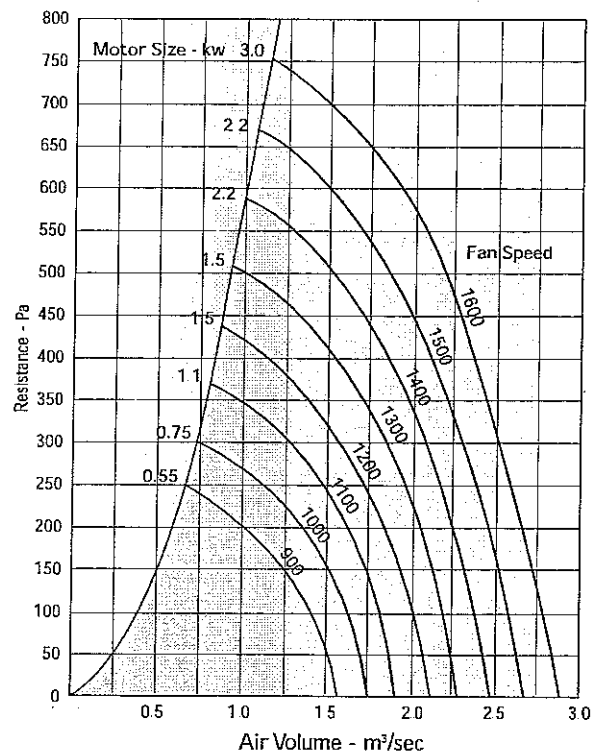
CFD 200 - STD



Unit
Dimensions
Page 21

Model 200-STD	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
750	80	81	75	73	64	60	56	49	57
850	81	82	78	75	67	63	59	52	59
950	84	82	81	77	69	66	61	56	61
1050	86	82	85	79	71	69	64	59	63
1150	88	83	87	80	73	70	66	62	66
1250	89	85	88	81	74	73	68	63	67
1350	90	88	90	83	77	75	71	66	69

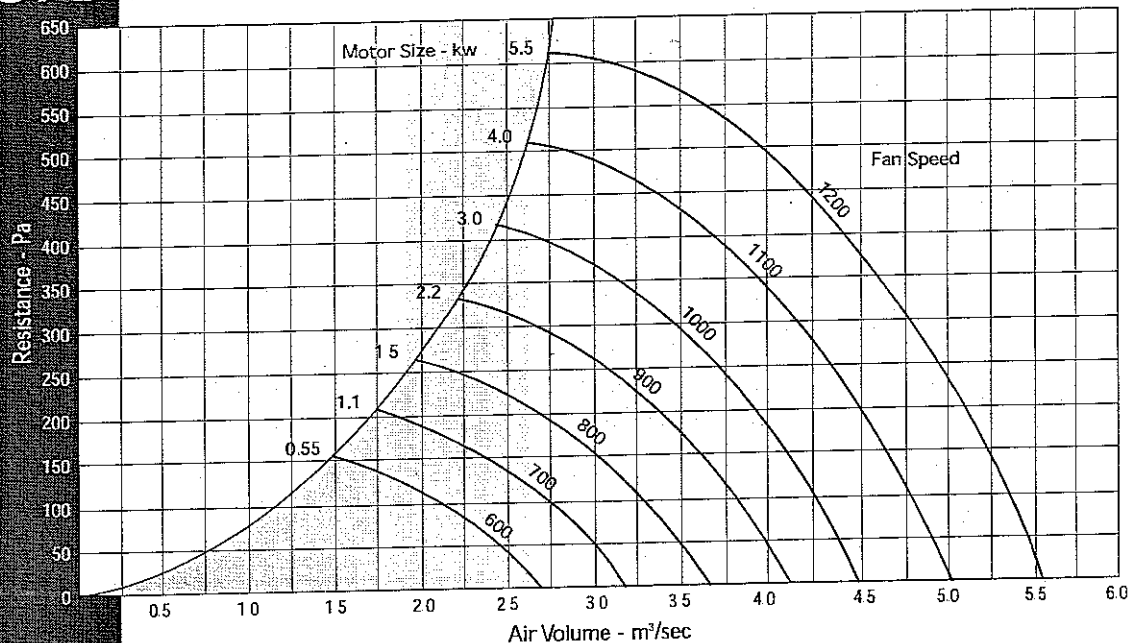
CFD 200 - HP



MAKE SELECTION

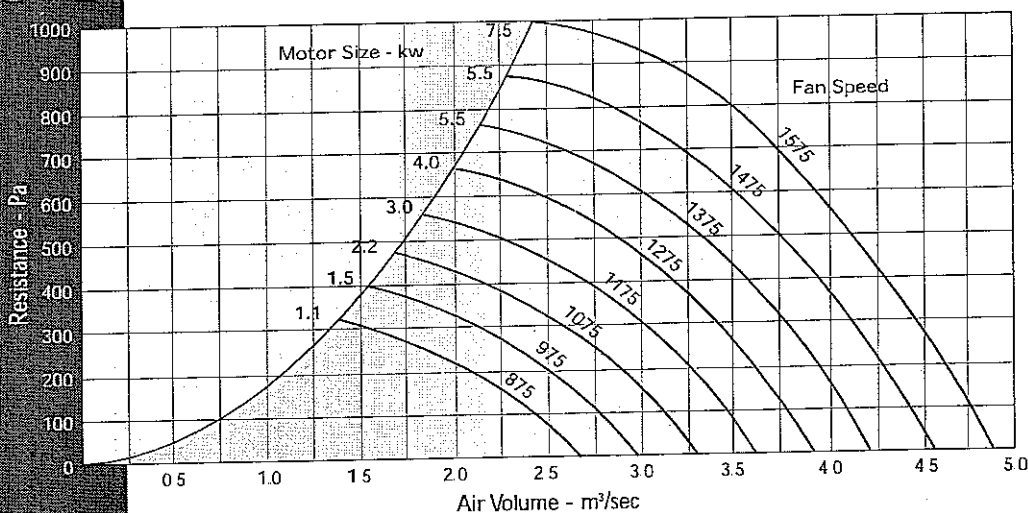
Model 200-HP	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
900	77	79	82	73	67	61	58	52	
1000	76	79	85	77	69	65	62	56	
1100	77	81	86	77	70	66	64	58	
1200	81	82	86	79	72	70	66	61	
1300	82	83	87	80	73	71	68	63	
1400	86	85	89	84	77	75	73	67	
1500	88	85	89	86	78	76	74	69	
1600	87	85	88	88	79	77	73	69	

CFD 240 - STD



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
240 - STD	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
600	78	81	77	72	68	63	55	49	57
700	79	83	80	73	71	66	59	52	60
800	82	85	83	75	74	71	63	57	63
900	83	86	87	79	77	74	67	61	66
1000	84	86	89	81	79	75	69	63	68
1100	86	84	91	81	79	76	70	65	69
1200	87	87	95	85	81	81	75	69	73

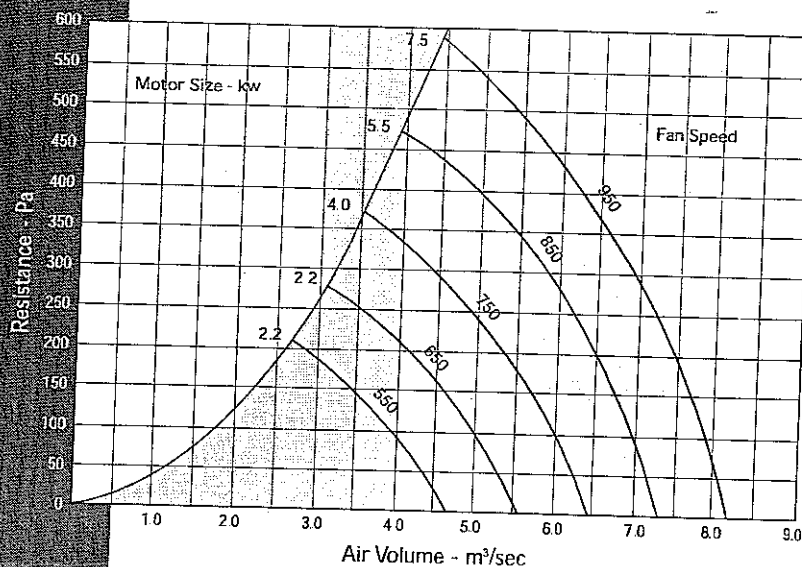
CFD 240 - HP



Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL
240 - HP	Centre Frequency - Hz								dBA
Fan Speed	63	125	250	500	1K	2K	4K	8K	@3.0m
875	83	83	81	77	71	67	64	58	61
975	84	84	83	78	74	70	67	62	64
1075	85	85	84	80	75	72	69	64	65
1175	85	85	86	81	77	75	72	67	67
1275	85	85	88	82	78	76	73	68	67
1375	85	85	90	83	79	77	73	69	69
1475	85	85	92	83	81	78	74	71	71
1575	85	85	94	84	82	78	75	72	72

MAKE SELECTION

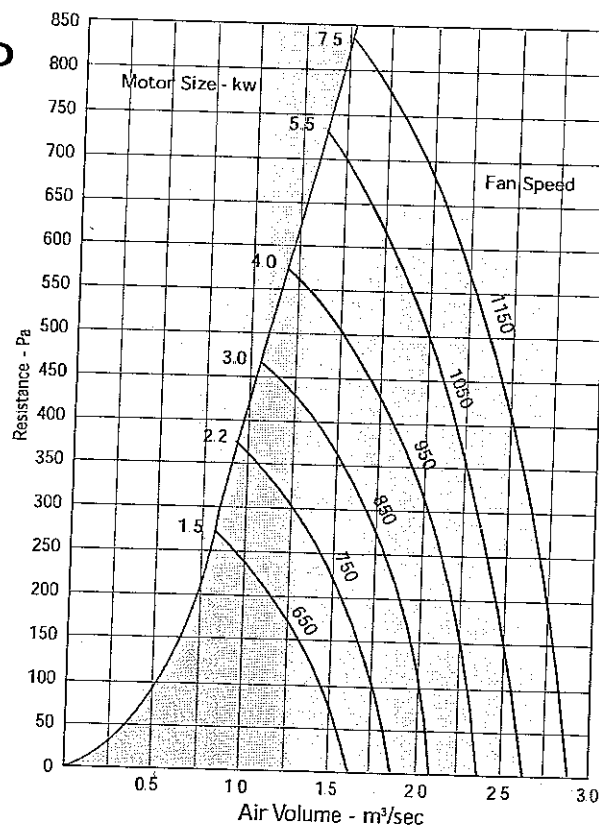
CFD 300 - STD



Unit
Dimensions
Page 21

Model	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
300 - STD	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
550	82	83	79	72	69	65	59	54	59
650	84	88	82	75	73	69	64	60	63
750	86	92	85	78	76	73	68	65	66
850	89	94	91	81	79	76	71	68	69
950	91	95	95	83	81	78	74	70	72

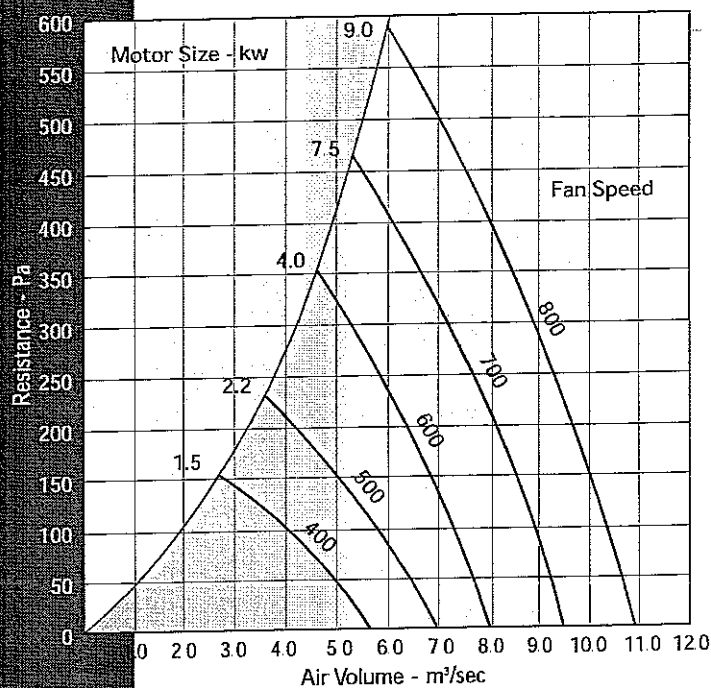
CFD 300 - HP



MAKE SELECTION

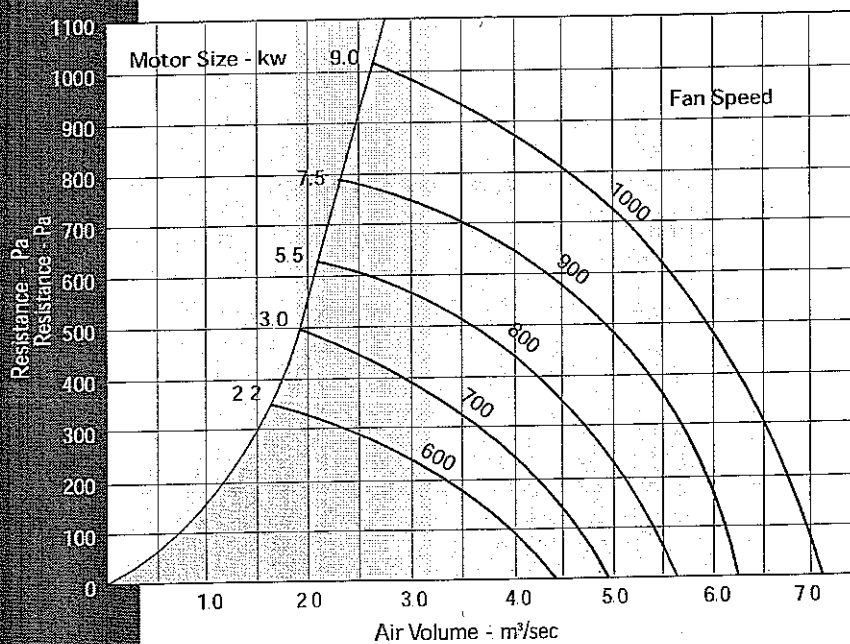
All volume - 117/sec									
Model 300 - HP	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
650	85	82	80	74	67	67	63	54	60
750	86	84	83	76	71	70	67	59	63
850	87	87	88	78	74	72	70	64	66
950	87	88	91	79	76	75	73	68	68
1050	88	87	91	81	79	77	75	71	69
1150	89	86	90	83	81	78	77	73	71

CFD 360 - STD



Model 360 - STD	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
400	85	82	76	68	68	64	58	53	57
500	89	84	81	73	73	68	60	55	60
600	90	91	85	77	76	74	68	63	66
700	92	95	88	81	80	77	73	68	69
800	95	98	89	84	84	81	76	71	73

CFD 360 - HP



Model 360 - HP	Sound Power Level Spectrum dB re10 ⁻¹² w. PWL								SPL dBA @3.0m
	Centre Frequency - Hz								
Fan Speed	63	125	250	500	1K	2K	4K	8K	
600	88	89	82	73	67	64	62	59	60
700	86	88	82	75	71	68	66	63	62
800	84	87	82	77	75	72	70	67	64
900	87	87	86	81	79	76	73	71	68
1000	91	87	91	84	81	78	75	73	71

MAKE SELECTION

CFD Dimensions

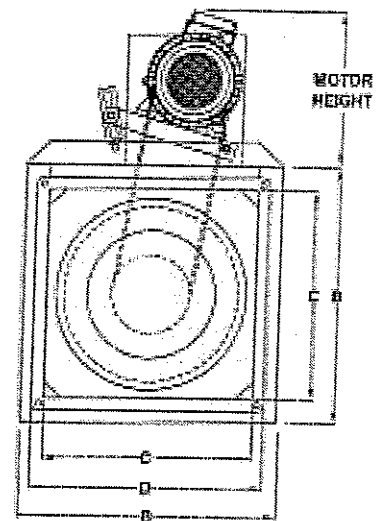
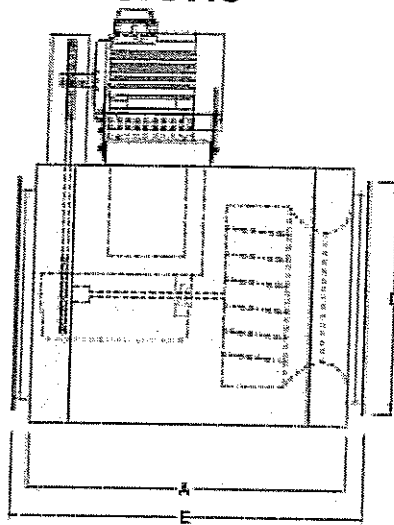
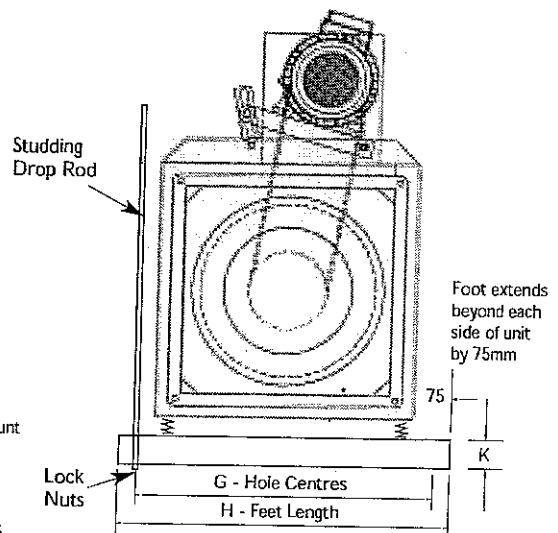
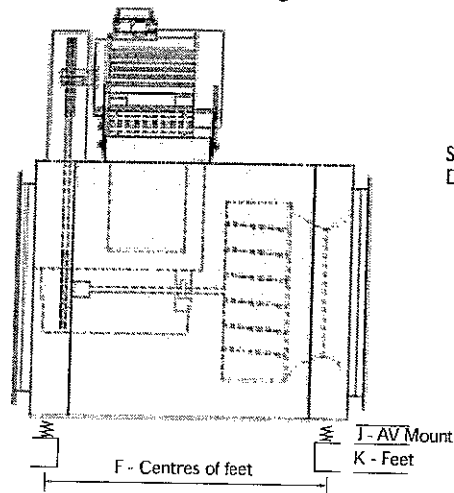
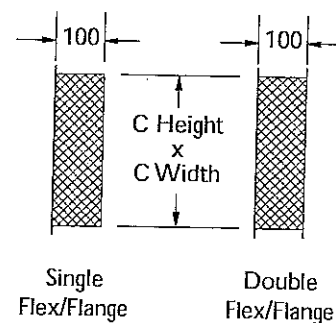


Illustration showing feet details:



Mounting feet can be used with drop rods or fastened down to base.

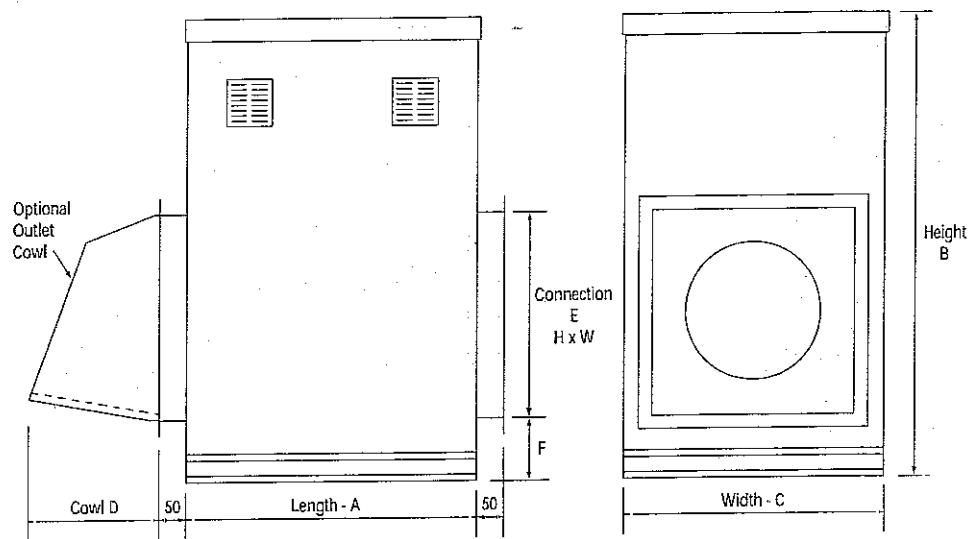
Motor Size kW	Max. Motor Height mm
0.18	310
0.25	320
0.55, 0.75 & 1.1	330
1.5 & 2.2	350
3.0 & 4.0	380
5.5	450
7.5	480
9.0	505



Model No.	Dimensions - mm										Weight* Kgs
	A	B	C	D	E	F	G	H	J	K	
CFD 80	533	381	283	323	593	503	451	531	25	40	34
CFD 100	533	432	334	374	593	503	502	582	25	40	38
CFD 140	556	582	505	545	616	526	652	732	25	40	63
CFD 160	660	660	581	621	720	630	730	810	25	40	73
CFD 180	711	711	607	647	795	681	781	861	25	40	86
CFD 180 HP	711	711	607	647	795	681	781	861	25	40	86
CFD 200	813	813	708	748	893	783	883	963	25	40	100
CFD 200 HP	813	813	708	748	893	783	883	963	25	40	100
CFD 240	875	991	886	946	955	834	1061	1141	25	40	145
CFD 240 HP	875	991	886	946	955	834	1061	1141	25	40	145
CFD 300	965	1168	1064	1124	1045	935	1238	1318	50	100	191
CFD 300 HP	965	1168	1064	1124	1045	935	1238	1318	50	100	191
CFD 360	1067	1320	1220	1257	1147	1037	1390	1470	50	100	273
CFD 360 HP	1067	1320	1220	1257	1147	1037	1390	1470	50	100	273

* Weight varies with motor size

CFD in Weatherproof Housing



Model	Length A	Height B	Width C	Cowl D	Connection E	Spigot to Base F	*Case Weight Kgs
CFD 80	820	800	540	300	283	240	48
CFD 100	820	900	590	300	334	240	55
CFD 140	800	1100	750	350	505	230	71
CFD 160	900	1200	820	400	581	230	83
CFD 180+HP	980	1250	880	450	607	243	97
CFD 200+HP	1100	1350	1000	500	708	243	116
CFD 240+HP	1300	1680	1200	600	886	267	253
CFD 300+HP	1400	1950	1400	600	1064	352	290
CFD 360+HP	1500	2050	1550	600	1220	352	329

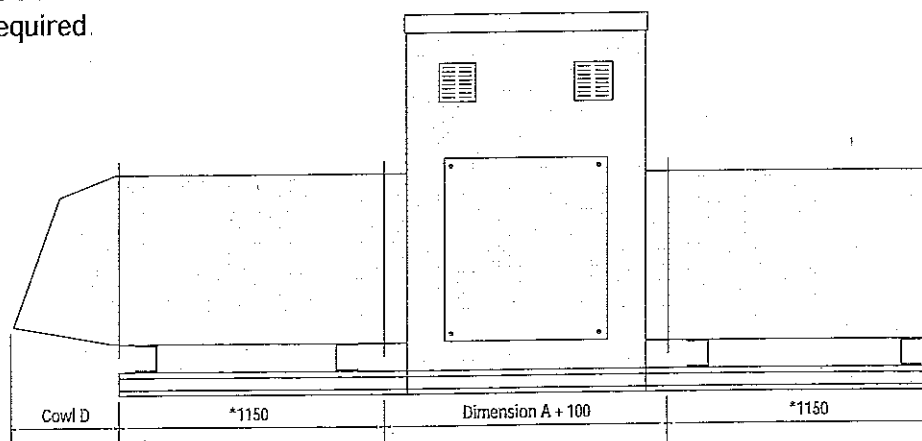
All dimensions in mm.

*Add case weight to unit weight page 21.

All weatherproof units are completely corrosion proof, the cases being manufactured from galvanised sheet steel, then polyester powder coated and baked at high temperature, providing an attractive and durable finish. The standard colour is light grey to BS 00A05. The case has an acoustic foam lining ensuring minimal noise breakout. The Centrifume unit is fully vibration isolated within the weatherproof case, including flexible connections and AV mounts. Access panels are provided to both sides, plus removable top, for internal cleaning and maintenance.

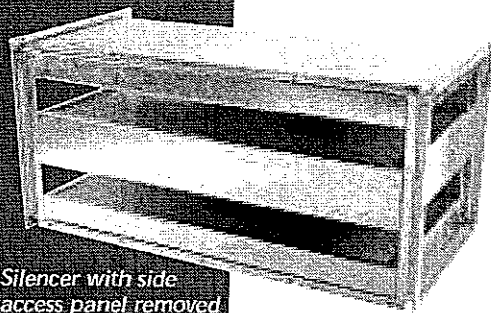
Fitted Silencers

Available to both inlet and outlet with channel base and outlet cowl as required.



*Standard length of cleanable silencers

CFS Silencers



Silencer with side access panel removed

The CFS silencer range has the unique feature of a removable panel from which the acoustic splitters can be withdrawn for cleaning.

Due to the compact size of the CFD unit relative to the air volume, in some instances the silencer will not match the CFD case, and duct transitions will be necessary. For those silencers that do match the CFD unit, a 300mm long duct section is recommended between the silencer and unit.

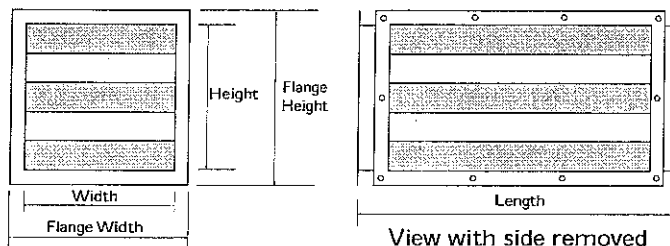
The CFS silencers can also be manufactured in non-cleanable construction for uncontaminated air, please specify model CFS/NC for this type.

The silencer case is galvanised sheet steel of lock formed construction, terminating in proprietary duct flanges.

Silencer Attenuation

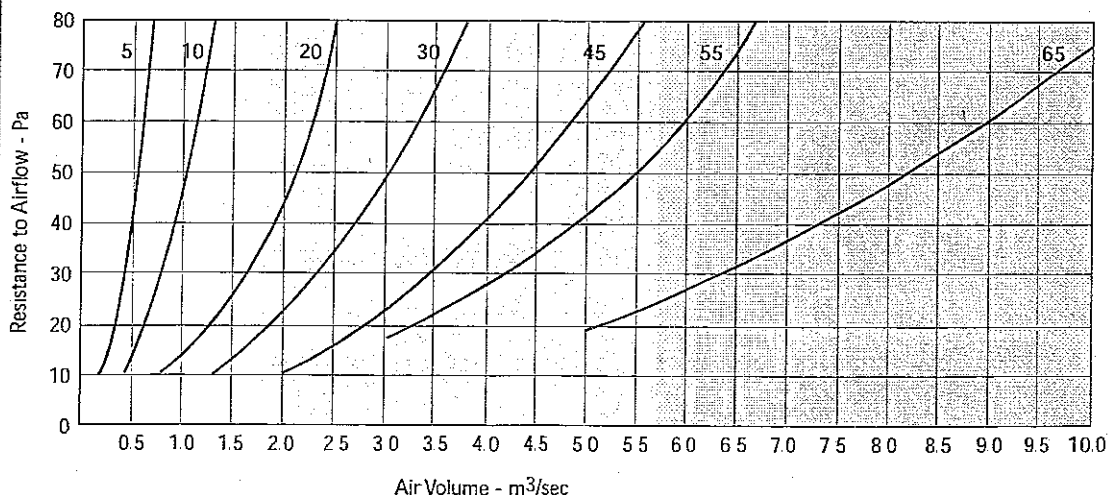
Silencer Model	Insertion Loss - dB							
	Centre Frequency - Hz							
	63	125	250	500	1K	2K	4K	8K
CFS 5	5	9	16	30	39	39	31	26
CFS 10	5	10	19	35	45	45	36	27
CFS 20	3	6	13	23	29	29	17	10
CFS 30	4	8	16	29	37	37	27	17
CFS 45	3	6	13	23	29	29	17	10
CFS 55	4	8	16	29	37	37	27	17
CFS 65	3	6	13	23	29	29	17	10

Silencer Dimensions



Silencer Model	Dimensions - mm					Weight kgs
	Width	Flange Width	Height	Flange Height	Length	
CFS 5	334	374	334	374	1150	25
CFS 10	505	545	505	545	1150	50
CFS 20	607	647	607	647	1150	60
CFS 30	825	885	825	885	1150	90
CFS 45	886	946	886	946	1150	98
CFS 55	1064	1124	1064	1124	1150	140
CFS 65	1220	1320	1220	1320	1150	171

Silencer Air Pressure Loss



Electrical Details

CFR roof units are normally fitted with a weatherproof isolator. This includes 1 phase and 3 phase single speed motors and all 3 phase two speed motors

Two Speed Controllers consist of an enclosure with high / low / off switch, delay timer, overloads, contactors, run and trip lights for each speed, door isolator, labelling.

Motor kW	FLC's amps	Model
1.1 / 0.19	2.8 / 1.34	CFEL 3615
1.8 / 0.37	4.0 / 1.5	CFEL 6015
2.2 / 0.45	5.0 / 1.9	CFEL 6027
3.0 / 0.6	6.8 / 2.9	CFEL 8536
3.7 / 0.75	7.9 / 3.0	CFEL 8536
5.5 / 1.1	11.4 / 4.1	CFEL 1250
7.5 / 1.9	15.5 / 6.3	CFEL 1885
9.2 / 1.85	18.0 / 6.0	CFEL 1885

The enclosure size for all panels up to 5.5/1.1kw motor is 300mm wide x 400mm high x 150mm deep, and for 7.5/1.9kw and 9.2/1.85kw motors is 400mm wide x 500mm high x 150mm deep

Three Phase Motor Speed Control using a matched three phase inverter.

Model Size	FLC amps	Inverter Model
0.37kW	1.18	IN3434 - 0037
0.55kW	1.50	IN3434 - 0055
0.75kW	2.00	IN3434 - 0075
1.1kW	2.60	IN3434 - 0110
1.5kW	3.90	IN3434 - 0150
2.2kW	5.80	IN3434 - 0220
3.0kW	7.10	IN3434 - 0300
4.0kW	8.50	IN3434 - 0400
5.5kW	12.00	IN3434 - 0550
7.5kW	16.50	IN3434 - 0750
9.0kW	18.30	IN3434 - 0900

Up to and including 2.2kw the standard inverter has an IP20 housing and accessible electrical connections. These are only suitable for mounting in a control panel or in the optional IP54 enclosure supplied by VES. Sizes 3.0kW to 9.0kW come with an IP54 enclosure as standard.

With each inverter a local fan speed controller with on/off switch is supplied, model CFSC1, and the inverter is programmed at VES to match the controller before despatched.

Single Phase Motor Speed Control is achieved by using a 240 volt single phase supply into the single phase inverter, which converts the supply to three phase to the motor. Therefore, select a standard three phase motor for the Centrifuge, but provide a single phase supply up to the inverter, and three phase wiring from the inverter to the motor.

Model Size (3 phase)	Rated Current 1 Phase	Inverter Model
0.18kW	1.4 amps	IN1234 - 0018
0.25kW	1.7 amps	IN1234 - 0025
0.37kW	2.2 amps	IN1234 - 0037
0.55kW	3.0 amps	IN1234 - 0055
0.75kW	4.3 amps	IN1234 - 0075
1.1kW	5.9 amps	IN1234 - 0110
1.5kW	7.0 amps	IN1234 - 0150
2.2kW	9.0 amps	IN1234 - 0220

The single phase inverters have an IP20 housing and accessible electrical connections. These are only suitable for mounting in a control panel or in the optional IP54 enclosure supplied by VES. With each inverter a local fan speed controller with on/off switch is

supplied, model CFSC1, and the inverter is programmed at VES to match the controller before despatch.



We care about air

VES Andover Limited
Eagle Close, Chandlers Ford Industrial Estate,
Chandlers Ford, Eastleigh, Hampshire SO53 4NF

Tel: 08702-40-43-40
Fax: 08702-40-45-50
e-mail: vesltd@ves.co.uk
www.ves.co.uk



ISO 9001-2000
Cert No. Q5375

VES reserve the right to amend product specifications and details without notice

Leaflet No. 787-5/02



Centrifume - CFR Units

Installation, Operation and Maintenance Manual

320120953P

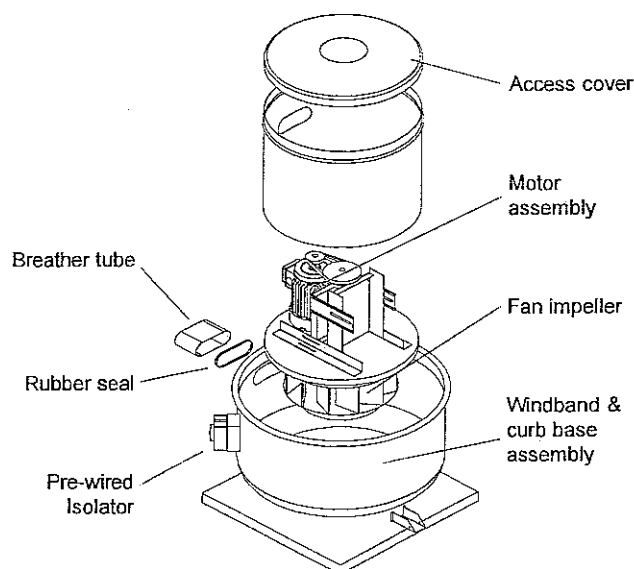


Fig 1 CFR Exploded view

IMPORTANT 
This manual must be read in full before installation, operation and maintenance of the units supplied

Contents		page
1	Introduction	1
2	Receipt of Goods/Handling	1
3	Installation	1
4	Set-up	2
5	Wiring	2
6	Maintenance	6
7	Warranty	7
8	Declaration of Conformity	8

1 Introduction

The CFR Centrifume is a range of roof mounted, belt driven extract fans, designed to meet the arduous conditions found in restaurant kitchen hood extract systems - hot air with high grease content. The standard ambient operating temperature of the unit is -20 to +35°C, with in-duct airflow up to 190°C.

For further technical details contact VES on **08702 404340**, quoting the sales order (SO) number and the unit type as found on the unit nameplate or visit **www.ves.co.uk**

2 Receipt of Goods/Handling

Immediately upon receipt of goods, check for possible damage in transit, paying particular attention to fan impeller, motor and drive belts. Prior to installation please check to ensure smooth rotation of the impeller after transit.

Also check to ensure that any ancillary items are included. These will normally be supplied fitted or taped to the unit (in the case of small items). In the event of any damage having occurred or if any item found to be missing it is essential to inform VES Andover Ltd. within **3 working days** of delivery quoting sales order (SO) number and the unit type as found on the unit nameplate. After this period we will be unable to accept any claim for damaged or missing goods.

IMPORTANT

The unit should **NOT** be lifted by handles, lids, housings, shaft, motor or drive.

When moving the unit, handle with care and in such a manner as to avoid damaging the casework. Units are to be rigged and lifted using spreaders, taking into account the weight of the unit, and lifting gear should be arranged so as not to bear on the casework.

3 Installation

IMPORTANT

Only experienced fitters should undertake this work.

The entire system must be considered for safety purposes and it is the responsibility of the installer to ensure that all of the equipment is installed in compliance with the manufacturer's recommendations, with due regard to the current **HEALTH AND SAFETY AT WORK ACT** and conforms to all relevant statutory regulations. Where a unit is installed so that a failure of components could result in injury to personnel, precautions should be taken to prevent such an injury.

It is the installer's responsibility to ensure that safe working access to the unit for maintenance is provided. Consideration must also be given by the installer for adequate illumination of the unit's location in order for safe maintenance.

For optimum unit performance, careful consideration must be paid to the location of the unit in relation to the ductwork and associated items. Placing the unit directly adjacent to a bend in ductwork will impede airflow and reduce performance; *fig. 2* indicates the recommended installation for a CFR unit.

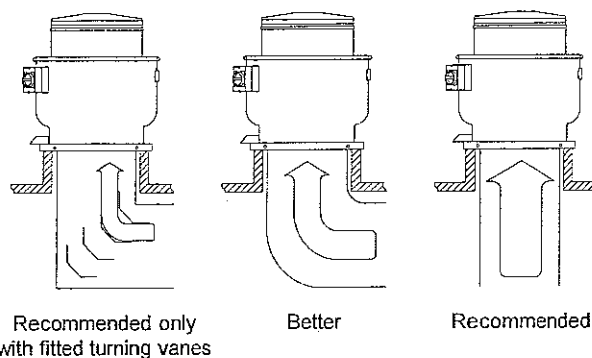


Fig 2 Recommended installation

The CFR unit must be secured to the curb upstand, using the eight pre-punched holes around the edge of the curb base. The upstand must be a minimum of 200mm high if an optional grease collection trough is to be fitted. If the unit does not include a drain trough the upstand height can be lowered. (see *fig. 3*). Consideration should be given to the unit's mass and the curb upstand should be so constructed as to be load bearing to at least this weight. The top of the curb upstand should be horizontal and flat.



Centrifume - CFR Units

Installation, Operation and Maintenance Manual

5 Wiring continued

Fig. 8 Standard electrical details • Three Phase 400V 50Hz

3 Phase Motor Details					
Model	Fan RPM	Motor size (kW)	Motor RPM	FLC**	SC*
CFR100/STD/1000-3	1000	0.18	1330	0.60	1.38
CFR100/STD/1100-3	1100	0.18	1330	0.60	1.38
CFR100/STD/1200-3	1200	0.18	1330	0.60	1.38
CFR100/STD/1300-3	1300	0.18	1330	0.60	1.38
CFR100/STD/1400-3	1400	0.18	1330	0.60	1.38
CFR100/STD/1500-3	1500	0.25	1340	0.70	2.24
CFR100/STD/1600-3	1600	0.25	1340	0.70	2.24
CFR100/STD/1700-3	1700	0.37	1370	1.18	3.89
CFR100/STD/1800-3	1800	0.37	1370	1.18	3.89
CFR100/HP/1300-3	1300	0.18	1330	0.60	1.38
CFR100/HP/1500-3	1500	0.18	1330	0.60	1.38
CFR100/HP/1700-3	1700	0.18	1330	0.60	1.38
CFR100/HP/1900-3	1900	0.25	1340	0.70	2.24
CFR100/HP/2100-3	2100	0.37	1370	1.18	3.89
CFR100/HP/2300-3	2300	0.37	1370	1.18	3.89
CFR100/HP/2500-3	2500	0.55	1400	1.60	5.76
CFR120/STD/700-3	700	0.18	1330	0.60	1.38
CFR120/STD/800-3	800	0.18	1330	0.60	1.38
CFR120/STD/900-3	900	0.18	1330	0.60	1.38
CFR120/STD/1000-3	1000	0.18	1330	0.60	1.38
CFR120/STD/1100-3	1100	0.18	1330	0.60	1.38
CFR120/STD/1200-3	1200	0.18	1330	0.60	1.38
CFR120/STD/1300-3	1300	0.25	1340	0.70	2.24
CFR120/STD/1400-3	1400	0.25	1340	0.70	2.24
CFR120/STD/1500-3	1500	0.37	1370	1.18	3.89
CFR120/STD/1600-3	1600	0.37	1370	1.18	3.89
CFR120/STD/1700-3	1700	0.55	1400	1.60	5.76
CFR140/STD/700-3	700	0.25	1340	0.70	2.24
CFR140/STD/800-3	800	0.25	1340	0.70	2.24
CFR140/STD/900-3	900	0.25	1340	0.70	2.24
CFR140/STD/1000-3	1000	0.25	1340	0.70	2.24
CFR140/STD/1100-3	1100	0.37	1370	1.18	3.89
CFR140/STD/1200-3	1200	0.37	1370	1.18	3.89
CFR140/STD/1300-3	1300	0.55	1400	1.60	5.76
CFR140/STD/1400-3	1400	0.55	1400	1.60	5.76
CFR140/STD/1500-3	1500	0.55	1400	1.60	5.76
CFR140/STD/1600-3	1600	0.75	1410	2.20	9.68
CFR140/STD/1700-3	1700	1.10	1385	2.80	12.32
CFR160/STD/750-3	750	0.25	1340	0.70	2.24
CFR160/STD/850-3	850	0.25	1340	0.70	2.24
CFR160/STD/950-3	950	0.37	1370	1.18	3.89
CFR160/STD/1050-3	1050	0.37	1370	1.18	3.89
CFR160/STD/1150-3	1150	0.55	1400	1.60	5.76
CFR160/STD/1250-3	1250	0.75	1410	2.20	9.68
CFR160/STD/1350-3	1350	1.10	1385	2.80	12.32
CFR160/HP/1000-3	1000	0.25	1340	0.70	2.24
CFR160/HP/1100-3	1100	0.37	1370	1.18	3.89
CFR160/HP/1200-3	1200	0.37	1370	1.18	3.89
CFR160/HP/1300-3	1300	0.55	1400	1.60	5.76
CFR160/HP/1400-3	1400	0.55	1400	1.60	5.76
CFR160/HP/1500-3	1500	0.75	1410	2.20	9.68
CFR160/HP/1600-3	1600	1.10	1385	2.80	12.32
CFR180/STD/900-3	900	0.37	1370	1.18	3.89
CFR180/STD/1000-3	1000	0.55	1400	1.60	5.76
CFR180/STD/1100-3	1100	0.75	1410	2.20	9.68
CFR180/STD/1200-3	1200	1.10	1385	2.80	12.32
CFR180/STD/1300-3	1300	1.50	1400	3.60	20.52
CFR180/STD/1400-3	1400	1.50	1400	3.60	20.52
CFR180/STD/1500-3	1500	2.20	1400	5.30	25.44

3 Phase Motor Details					
Model	Fan RPM	Motor size (kW)	Motor RPM	FLC**	SC*
CFR180/HP/950-3	950	0.37	1370	1.18	3.89
CFR180/HP/1050-3	1050	0.55	1400	1.60	5.76
CFR180/HP/1150-3	1150	0.55	1400	1.60	5.76
CFR180/HP/1250-3	1250	0.75	1410	2.20	9.68
CFR180/HP/1350-3	1350	1.10	1385	2.80	12.32
CFR180/HP/1450-3	1450	1.50	1400	3.60	20.52
CFR180/HP/1550-3	1550	1.50	1400	3.60	20.52
CFR180/HP/1650-3	1650	2.20	1400	5.30	25.44
CFR200/STD/600-3	600	0.25	1340	0.70	2.24
CFR200/STD/700-3	700	0.37	1370	1.18	3.89
CFR200/STD/800-3	800	0.55	1400	1.60	5.76
CFR200/STD/900-3	900	0.75	1410	2.20	9.68
CFR200/STD/1000-3	1000	1.10	1385	2.80	12.32
CFR200/STD/1100-3	1100	1.50	1400	3.60	20.52
CFR200/STD/1200-3	1200	2.20	1400	5.30	25.44
CFR200/HP/900-3	900	0.55	1400	1.60	5.76
CFR200/HP/1000-3	1000	0.75	1410	2.20	9.68
CFR200/HP/1100-3	1100	1.10	1385	2.80	12.32
CFR200/HP/1200-3	1200	1.50	1400	3.60	20.52
CFR200/HP/1300-3	1300	1.50	1400	3.60	20.52
CFR200/HP/1400-3	1400	2.20	1400	5.30	25.44
CFR200/HP/1500-3	1500	2.20	1400	5.30	25.44
CFR200/HP/1600-3	1600	3.00	1425	6.80	31.28
CFR240/STD/425-3	425	0.18	1330	0.60	1.38
CFR240/STD/525-3	525	0.37	1370	1.18	3.89
CFR240/STD/625-3	625	0.55	1400	1.60	5.76
CFR240/STD/725-3	725	1.10	1385	2.80	12.32
CFR240/STD/825-3	825	1.50	1400	3.60	20.52
CFR240/STD/925-3	925	2.20	1400	5.30	25.44
CFR240/HP/730-3	730	0.55	1400	1.60	5.76
CFR240/HP/830-3	830	1.10	1385	2.80	12.32
CFR240/HP/930-3	930	1.10	1385	2.80	12.32
CFR240/HP/1030-3	1030	1.50	1400	3.60	20.52
CFR240/HP/1130-3	1130	2.20	1400	5.30	25.44
CFR240/HP/1230-3	1230	3.00	1425	6.80	31.28
CFR300/STD/500-3	500	1.10	1385	2.80	12.32
CFR300/STD/600-3	600	1.50	1400	3.60	20.52
CFR300/STD/700-3	700	2.20	1400	5.30	25.44
CFR300/STD/800-3	800	3.00	1425	6.80	31.28
CFR300/STD/900-3	900	5.50	1430	11.40	74.10
CFR300/HP/550-3	550	0.75	1410	2.20	9.68
CFR300/HP/650-3	650	1.10	1385	2.80	12.32
CFR300/HP/750-3	750	2.20	1400	5.30	25.44
CFR300/HP/850-3	850	3.00	1425	6.80	31.28
CFR300/HP/950-3	950	4.00	1400	9.20	55.20
CFR300/HP/1050-3	1050	5.50	1430	11.40	74.10
CFR360/HP/550-3	550	2.20	1400	5.30	25.44
CFR360/HP/600-3	600	3.00	1425	6.80	31.28
CFR360/HP/650-3	650	4.00	1400	9.20	55.20
CFR360/HP/700-3	700	4.00	1400	9.20	55.20
CFR360/HP/750-3	750	5.50	1430	11.40	74.10
CFR360/HP/800-3	800	5.50	1430	11.40	74.10
CFR360/HP/850-3	850	7.50	1445	14.80	96.20

* SC - Nominal starting current (A)

** FLC - Full load starting current (A)



Centrifume - CFR Units

Installation, Operation and Maintenance Manual

5 Wiring continued

Fig. 9 Standard electrical details • Single Phase 230V 50Hz

1 Phase Motor Details					
Model	Fan RPM	Motor size (kW)	Motor RPM	FLC**	SC*
CFR100/STD/1000-1	1000	0.18	1290	2.00	3.60
CFR100/STD/1100-1	1100	0.18	1290	2.00	3.60
CFR100/STD/1200-1	1200	0.18	1290	2.00	3.60
CFR100/STD/1300-1	1300	0.18	1290	2.00	3.60
CFR100/STD/1400-1	1400	0.18	1290	2.00	3.60
CFR100/STD/1500-1	1500	0.25	1340	2.30	5.06
CFR100/STD/1600-1	1600	0.25	1340	2.30	5.06
CFR100/STD/1700-1	1700	0.37	1370	8.10	3.00
CFR100/HP/1300-1	1300	0.18	1290	2.00	3.60
CFR100/HP/1500-1	1500	0.18	1290	2.00	3.60
CFR100/HP/1700-1	1700	0.18	1290	2.00	3.60
CFR100/HP/1900-1	1900	0.25	1340	2.30	5.06
CFR100/HP/2100-1	2100	0.37	1370	8.10	3.00
CFR100/HP/2300-1	2300	0.37	1370	8.10	3.00
CFR100/HP/2500-1	2500	0.55	1390	4.00	12.80
CFR120/STD/700-1	700	0.18	1290	2.00	3.60
CFR120/STD/800-1	800	0.18	1290	2.00	3.60
CFR120/STD/900-1	900	0.18	1290	2.00	3.60
CFR120/STD/1000-1	1000	0.18	1290	2.00	3.60
CFR120/STD/1100-1	1100	0.18	1290	2.00	3.60
CFR120/STD/1200-1	1200	0.18	1290	2.00	3.60
CFR120/STD/1300-1	1300	0.25	1340	2.30	5.06
CFR120/STD/1400-1	1400	0.25	1340	2.30	5.06
CFR120/STD/1500-1	1500	0.37	1370	3.00	8.10
CFR120/STD/1600-1	1600	0.37	1370	3.00	8.10
CFR120/STD/1700-1	1700	0.55	1390	4.00	12.80
CFR140/STD/700-1	700	0.25	1340	2.30	5.06
CFR140/STD/800-1	800	0.25	1340	2.30	5.06
CFR140/STD/900-1	900	0.25	1340	2.30	5.06
CFR140/STD/1000-1	1000	0.25	1340	2.30	5.06
CFR140/STD/1100-1	1100	0.37	1370	3.00	8.10
CFR140/STD/1200-1	1200	0.37	1370	3.00	8.10
CFR140/STD/1300-1	1300	0.55	1390	4.00	12.80
CFR140/STD/1400-1	1400	0.55	1390	4.00	12.80
CFR140/STD/1500-1	1500	0.55	1390	4.00	12.80
CFR140/STD/1600-1	1600	0.75	1445	4.90	26.46
CFR160/STD/750-1	750	0.25	1340	2.30	5.06
CFR160/STD/850-1	850	0.25	1340	2.30	5.06
CFR160/STD/950-1	950	0.37	1370	3.00	8.10
CFR160/STD/1050-1	1050	0.37	1370	3.00	8.10
CFR160/STD/1150-1	1150	0.55	1390	4.00	12.80
CFR160/STD/1250-1	1250	0.75	1445	4.90	26.46
CFR160/HP/1000-1	1000	0.25	1340	2.30	5.06
CFR160/HP/1100-1	1100	0.37	1370	3.00	8.10
CFR160/HP/1200-1	1200	0.37	1370	3.00	8.10
CFR160/HP/1300-1	1300	0.55	1390	4.00	12.80
CFR160/HP/1400-1	1400	0.55	1390	4.00	12.80
CFR160/HP/1500-1	1500	0.75	1445	4.90	26.46

1 Phase Motor Details					
Model	Fan RPM	Motor size (kW)	Motor RPM	FLC**	SC*
CFR180/STD/800-1	800	0.37	1370	3.00	8.10
CFR180/STD/900-1	900	0.37	1370	3.00	8.10
CFR180/STD/1000-1	1000	0.55	1390	4.00	12.80
CFR180/STD/1100-1	1100	0.75	1445	4.90	26.46
CFR180/STD/1200-1	1200	1.10	1415	7.40	26.64
CFR180/STD/1300-1	1300	1.50	1430	9.00	42.30
CFR180/STD/1400-1	1400	1.50	1430	9.00	42.30
CFR180/STD/1500-1	1500	2.20	1450	12.50	57.50
CFR180/HP/950-1	950	0.37	1370	3.00	8.10
CFR180/HP/1050-1	1050	0.55	1390	4.00	12.80
CFR180/HP/1150-1	1150	0.55	1390	4.00	12.80
CFR180/HP/1250-1	1250	0.75	1445	4.90	26.46
CFR180/HP/1350-1	1350	1.10	1415	7.40	26.64
CFR180/HP/1450-1	1450	1.50	1430	9.00	42.30
CFR180/HP/1550-1	1550	1.50	1430	9.00	42.30
CFR180/HP/1650-1	1650	2.20	1450	12.50	57.50
CFR200/STD/600-1	600	0.25	1340	2.30	5.06
CFR200/STD/700-1	700	0.37	1370	3.00	8.10
CFR200/STD/800-1	800	0.55	1390	4.00	12.80
CFR200/STD/900-1	900	0.75	1445	4.90	26.46
CFR200/STD/1000-1	1000	1.10	1415	7.40	26.64
CFR200/STD/1100-1	1100	1.50	1430	9.00	42.30
CFR200/STD/1200-1	1200	2.20	1450	12.50	57.50
CFR200/HP/900-1	900	0.55	1390	4.00	12.80
CFR200/HP/1000-1	1000	0.75	1445	4.90	26.46
CFR200/HP/1100-1	1100	1.10	1415	7.40	26.64
CFR200/HP/1200-1	1200	1.50	1430	9.00	42.30
CFR200/HP/1300-1	1300	1.50	1430	9.00	42.30
CFR200/HP/1400-1	1400	2.20	1450	12.50	57.50
CFR200/HP/1500-1	1500	2.20	1450	12.50	57.50
CFR240/STD/425-1	425	0.18	1290	2.00	3.60
CFR240/STD/525-1	525	0.37	1370	3.00	8.10
CFR240/STD/625-1	625	0.55	1390	4.00	12.80
CFR240/STD/725-1	725	1.10	1415	7.40	26.64
CFR240/STD/825-1	825	1.50	1430	9.00	42.30
CFR240/STD/925-1	925	2.20	1450	12.50	57.50
CFR240/HP/730-1	730	0.55	1390	4.00	12.80
CFR240/HP/830-1	830	1.10	1415	7.40	26.64
CFR240/HP/930-1	930	1.10	1415	7.40	26.64
CFR240/HP/1030-1	1030	1.50	1430	9.00	42.30
CFR240/HP/1130-1	1130	2.20	1450	12.50	57.50
CFR300/STD/500-1	500	1.10	1415	7.40	26.64
CFR300/STD/600-1	600	1.50	1430	9.00	42.30
CFR300/STD/700-1	700	2.20	1450	12.50	57.50
CFR300/HP/550-1	550	0.75	1445	4.90	26.46
CFR300/HP/650-1	650	1.10	1415	7.40	26.64
CFR300/HP/750-1	750	2.20	1450	12.50	57.50
CFR360/HP/550-1	550	2.20	1450	12.50	57.50

* SC - Nominal starting current (A)

** FLC - Full load starting current (A)



Centrifume - CFR Units

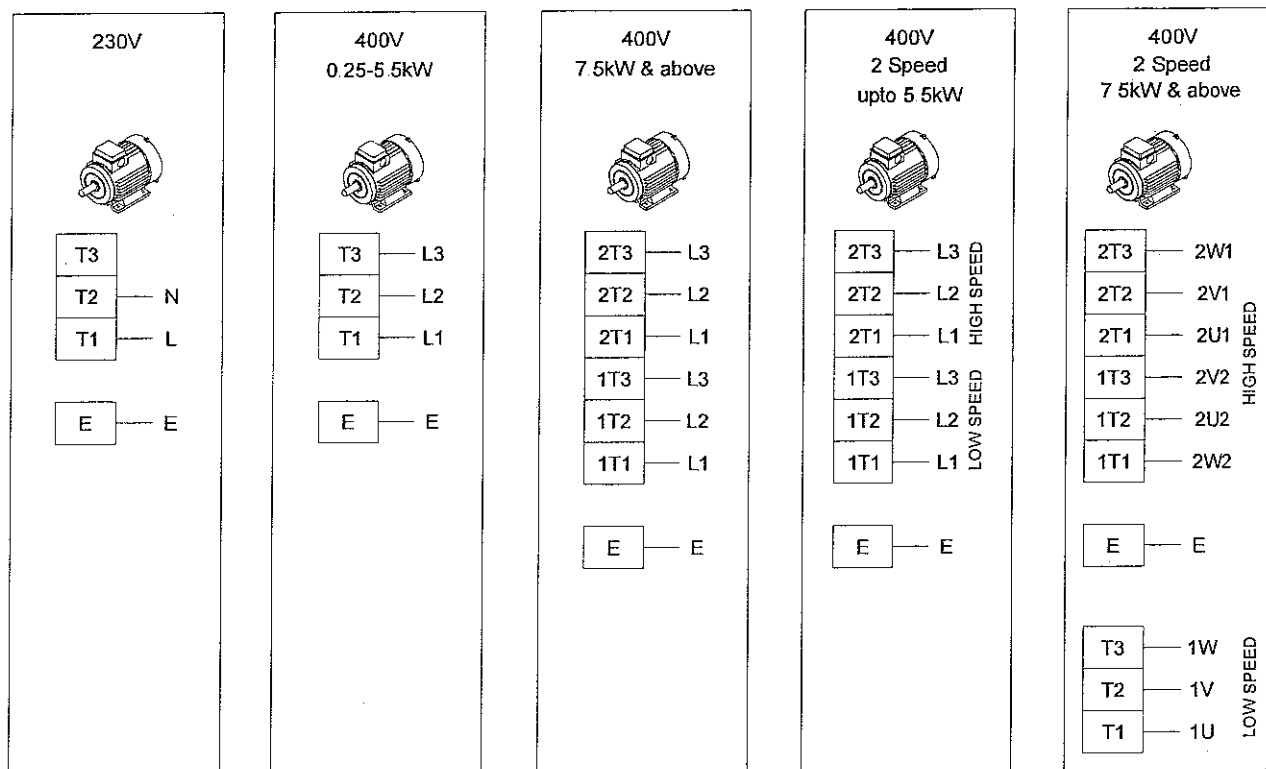
Installation, Operation and Maintenance Manual

5 Wiring continued

Standard motor wiring arrangement

Fig 10 Standard wiring arrangement to local isolator

Note: 2 speed motors are dual wound as standard





Centrifume - CFR Units

Installation, Operation and Maintenance Manual

6 Maintenance

IMPORTANT !

Before attempting to carry out any maintenance work, investigative or repair work on our units, the unit **MUST BE COMPLETELY ISOLATED** from its electrical supply. Ensure a minimum of two minutes after electrical disconnection before removing access panels. This will allow any moving parts to come to a rest.

The fan and motor bearings are sealed for life and supplied fully greased and lubricated. The bearings have a life of 10,000 hours, after which they need to be changed. Please contact VES Customer Services for replacement parts
Tel: 08702 404340

IMPORTANT !

Before attempting to carry out any work on our units, all accompanying documentation including warning labels on the unit must be referenced.

WARNING !

When used in conjunction with an inverter for speed control, a minimum of 5 minutes should be given to allow for the capacitors to discharge before starting work after disconnection from the power source.

Recommended checks

This range of units will require regular maintenance if located in greasy air systems.

In order to keep the unit in good order the following maintenance routine is recommended:

Three Monthly Check

The belt drive should be thoroughly checked. Belts are subject to fatigue and will stretch over a period of time. Within normal operating conditions, belts tend to stretch in the first few days of running. Inspection of belts at this early stage is advised. After this initial period, regular 3 monthly checks should be made. If belts are found to be loose or worn, retighten by moving the position of the motor plate, slacken bolts and slide the motor plate down, retighten the bolts. Refer to fig 5 for the recommended tension. Replace belts if necessary.

Excessive wear on both sides of the belts usually indicates a misalignment of the pulleys and this should be rectified at once see fig 4. New and used belts should not be run together in the same set. Belts of different types and brands should not be mixed. Always fit ALL NEW matched belts in the same set.

A check for excessive noise or vibration should be carried out. This will help to identify fan or motor defects before they develop. The cause of excessive noise or vibration could be due to: loose connections, mis-aligned fan belts, unbalanced fans or worn bearings.

WARNING !

Debris from kitchen environments can sometimes be found stuck to the fan impeller. This debris will cause the fan to become unbalanced, reduce its airflow, become noisy and eventually fail. The impeller should be regularly checked if this is a possibility.

Six Monthly Check

Check for contaminants in the system, especially around the drain pan (if fitted), impeller and inlet eye. Remove any residue if necessary and empty the drain trough if fitted.

Annual Check

It is recommended that the unit's casework and fixings are checked for signs of deterioration, particularly where adverse environmental conditions prevail. Repair or replace components if necessary.

IMPORTANT !

It is critical that after any maintenance work has been conducted that all components removed/replaced be refitted correctly by a competent engineer.

WEEE Directive



At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre. Do not dispose of with normal household waste. Do not burn.

When enquiring after or ordering spares contact VES Spares Department, quoting the sales order (SO) number and unit type as found on the unit nameplate.

Telephone
Fax

08702 40 43 40
08702 40 45 50



PLEASE ENSURE THAT THIS DOCUMENT IS PASSED ON TO THE END USER.

We reserve the right to alter the specification without notice.

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Centrifume - CFR Units

Installation, Operation and Maintenance Manual

7 Warranty

Extended Warranties

All VES Andover Products come with a one year guarantee from date of dispatch, which covers parts and labour. You can now extend this with the following options:

Option 1. FREE extended Warranty

We can offer you a maintenance agreement that keeps this equipment in tip-top condition. If you take out this agreement, we will extend the warranty **free of charge for up to 5 years**, providing the regular maintenance agreement remains in place.

Option 2. 12-24 Month Extended Warranty

12-24 months from the date of dispatch. This can be covered at a cost of just 3% of order value (minimum charge £50.00).

Option 3. 12-36 Month Extended Warranty

12-36 months from date of dispatch. For this cover, the charge is 6% of order value (Minimum charge £80)

Please State which option you require when you place your order. A transferable certificate will then be issued to you. *Please note, this offer excludes condensing units. We would be happy to quote you for these separately.*

Register for separate spares reminders and get a 10% discount

Register for this free service and we will automatically send you a regular reminder detailing the consumable spares for this unit, together with their current list prices.

You will then be entitled to a 10% discount off any spares.

To arrange any of these options

or Phone: 023 8046 1150
Email: spares@ves.co.uk

Stating the sales order and reference number from the unit



Centrifume - CFR Units

Installation, Operation and Maintenance Manual



Declaration of Conformity

Date: 26th June 2006
Product: Centrifume
Type: CFR units
Manufacturer: VES Andover Limited

The product above is produced in accordance with EC Council Directives:

98/37/EC (Machinery Directive)
89/336/EEC and amendment 92/31/EEC (Electromagnetic Compatibility Directive)
73/223/EEC and amendment 93/68/EEC (Low Voltage Directive)

The European Harmonised Standards applied are:

BS EN ISO 12100, EN 294, EN61000, EN 60204-1

The National Standards applied in particular are :

BS 848 Part 1

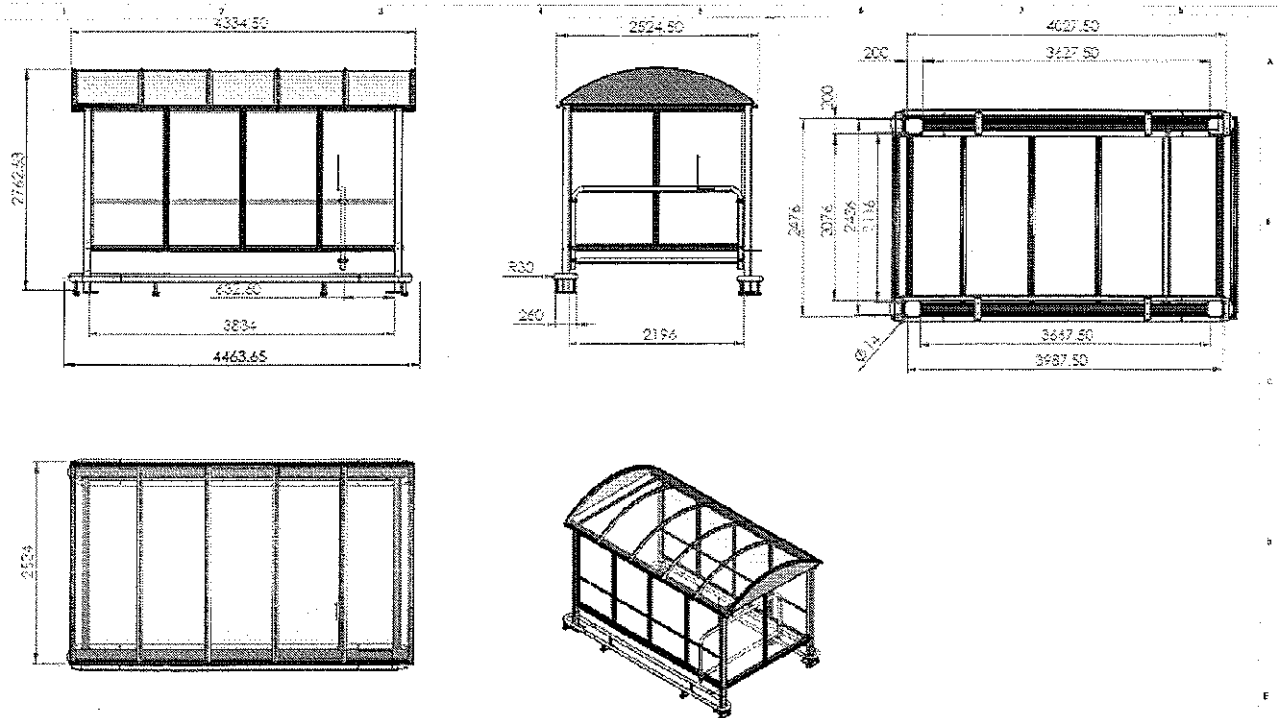
Basis of Self attestation:

Quality Assurance to ISO 9001-2000, BSI Reg Firm Cert. No. Q5375

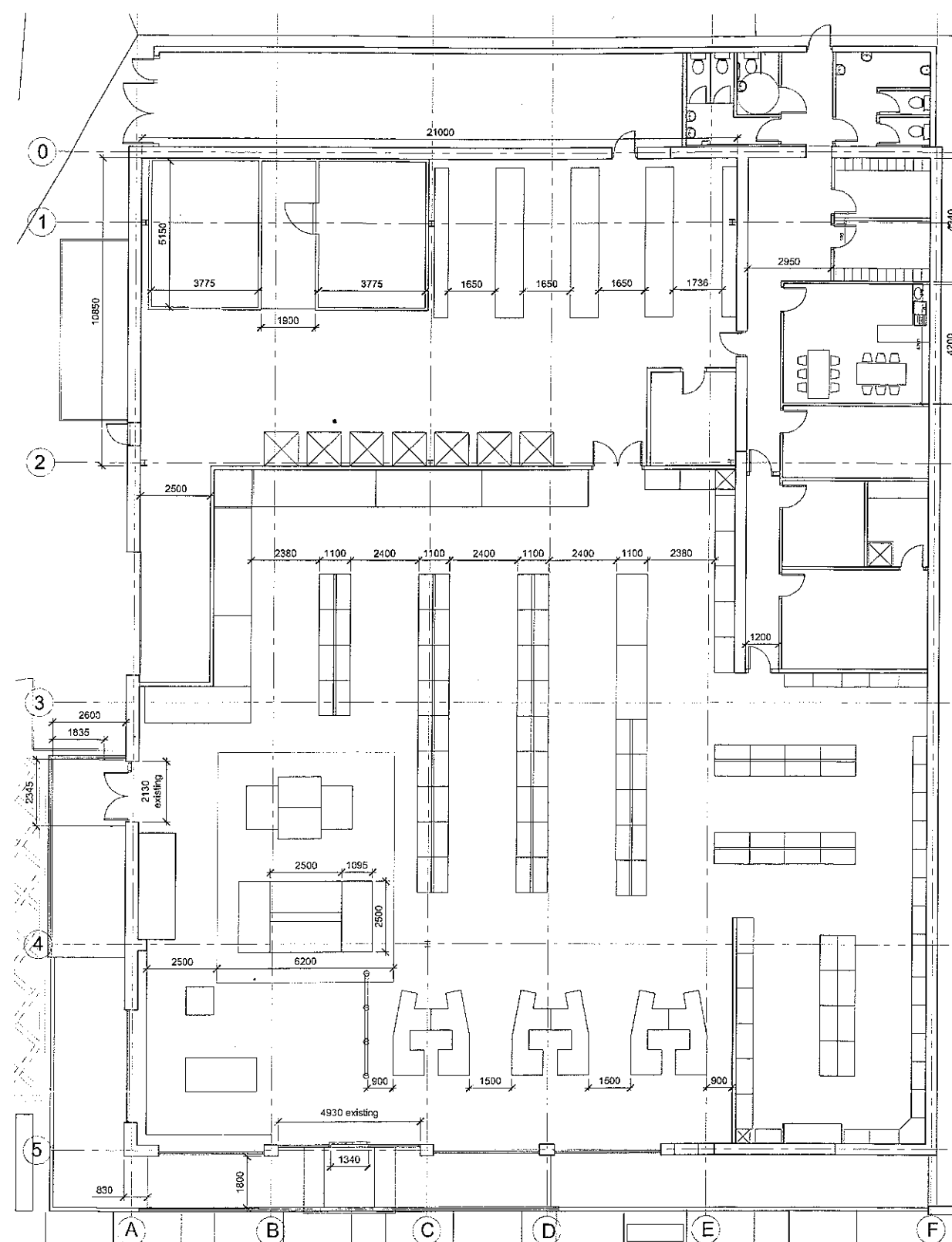
Signature of Manufacturer:

Position of Signatory:

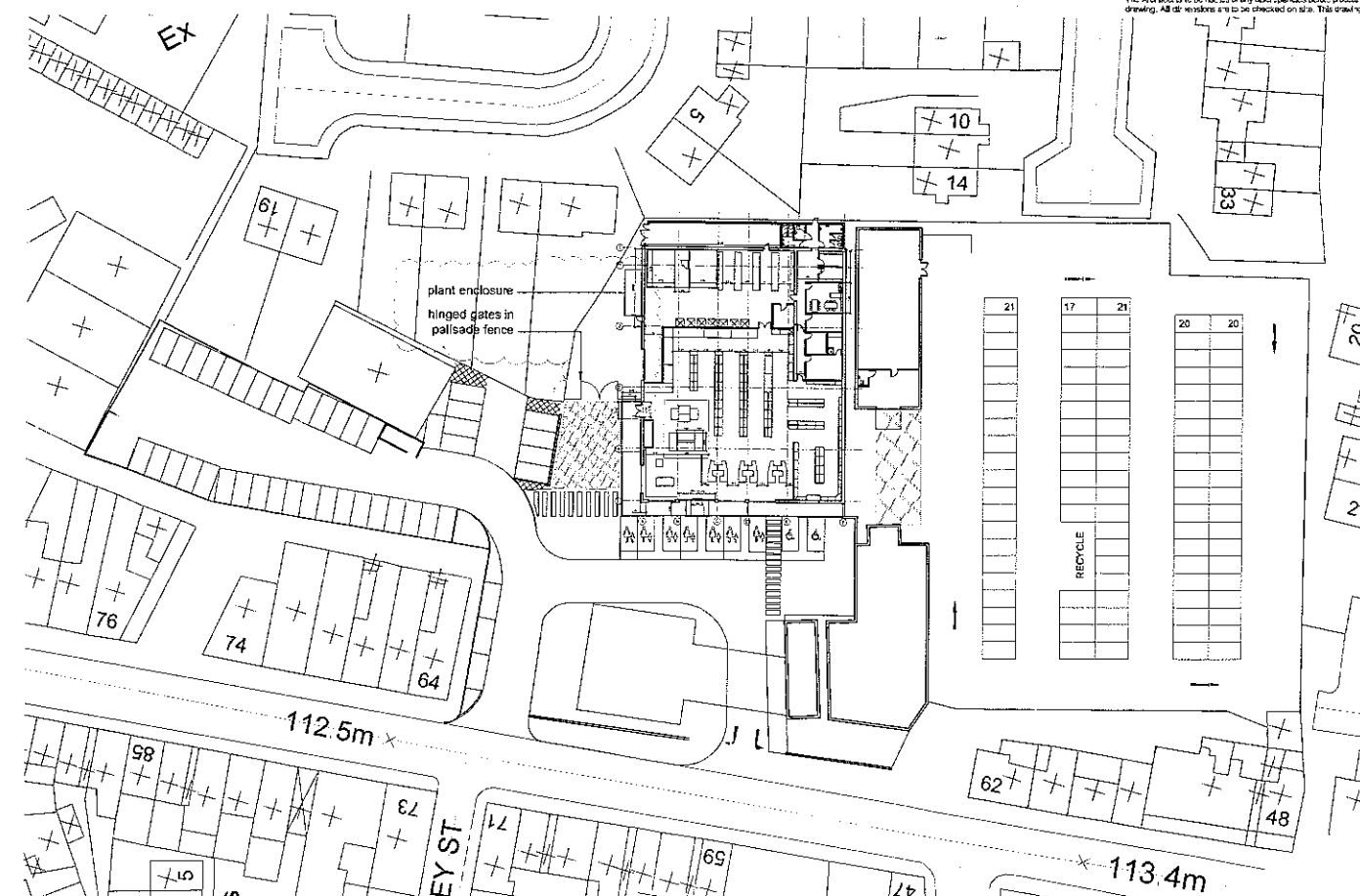
Technical Director



ISSUE A foot dims added



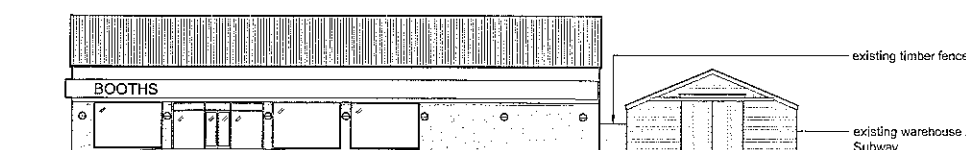
EXISTING STORE LAYOUT
1:100



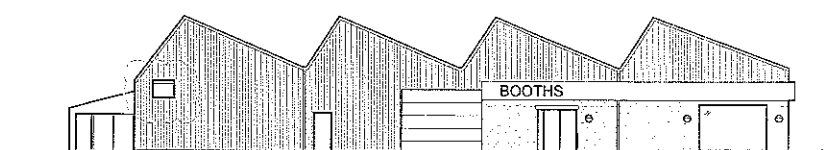
EXISTING SITE PLAN 1:500



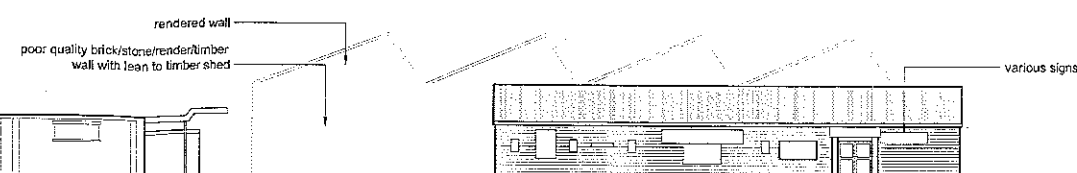
EXISTING NORTH ELEVATION 1:200



EXISTING SOUTH ELEVATION 1:200



EXISTING WEST ELEVATION 1:200



EXISTING EAST ELEVATION 1:200

320120953 P

no.	by	chk.	date	description	date
1	JRB	DS	20.04.2011	Update to show existing air bricks, gate and substation for	2011.06.20
2	JRB	DS	20.04.2011	North Elevation added	2011.06.20
3	JRB	DS	20.04.2011	South Elevation added	2011.06.20

BOOTH'S

project	Extension to Booth's Supermarket Berry Lane Longridge			
by	JRB	date	20.04.2011	scale
chk.	DS	date	20.04.2011	sheet size
title	EXISTING FLOOR PLAN & ELEVATION			

ref.	5432 L(1)-01	revision	3
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This drawing is to be read in conjunction with all relevant consultants' and specialists' drawings. The Architect is to be notified of any discrepancies before proceeding. Do not scale from this drawing. All dimensions are to be checked on site. This drawing is subject to copyright.

— existing 2.0m high fence unchanged to suit most local resident at no. 14, whose house it bounds



new signage fixed to fence

existing path to remain

2 no. L shaped 1100mm high x 850mm long, 50mm diameter stainless steel guardrails with mitrals to act as pedestrian guarding at the roads edge. Designed following general guidance with part M of the building regulations for lobby design. Double prisms "Out N About Nilper 360 v2" and "Graco Quattro Tour Dn2" indicated to show passing allowance. Root fixed and set in concrete foundation Macadam paving to be made good upon completion. L shaped to resist force of childrens leaping game.

white thermoplastic road marking paint (pedestrian crossing)

— yellow thermoplastic road marking paint

— 1.9m high reclaimed palisade fence and gate for security

— pedestrian walkway in white road marking paint

— existing lighting column with protection

320120953P



A horizontal scale bar with markings at 0, 2, 4, 6, 8, and 10m.

[illegible]

Extension to Booths Supermarket
Berry Lane
Longridge

by chr case scale sheet

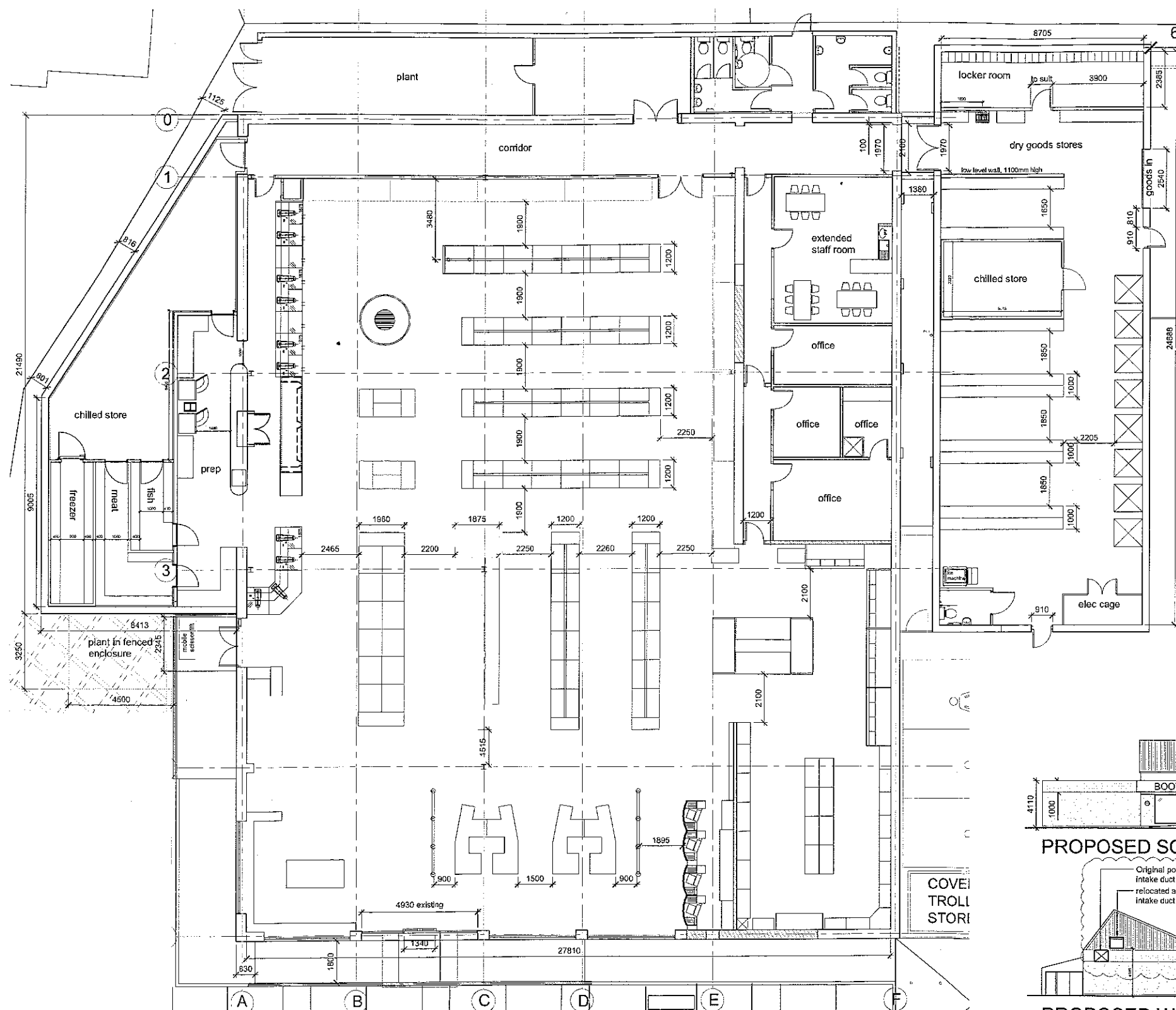
JRB DS 12 05 2011 1:200 A1

CAR PARK PROPOSALS

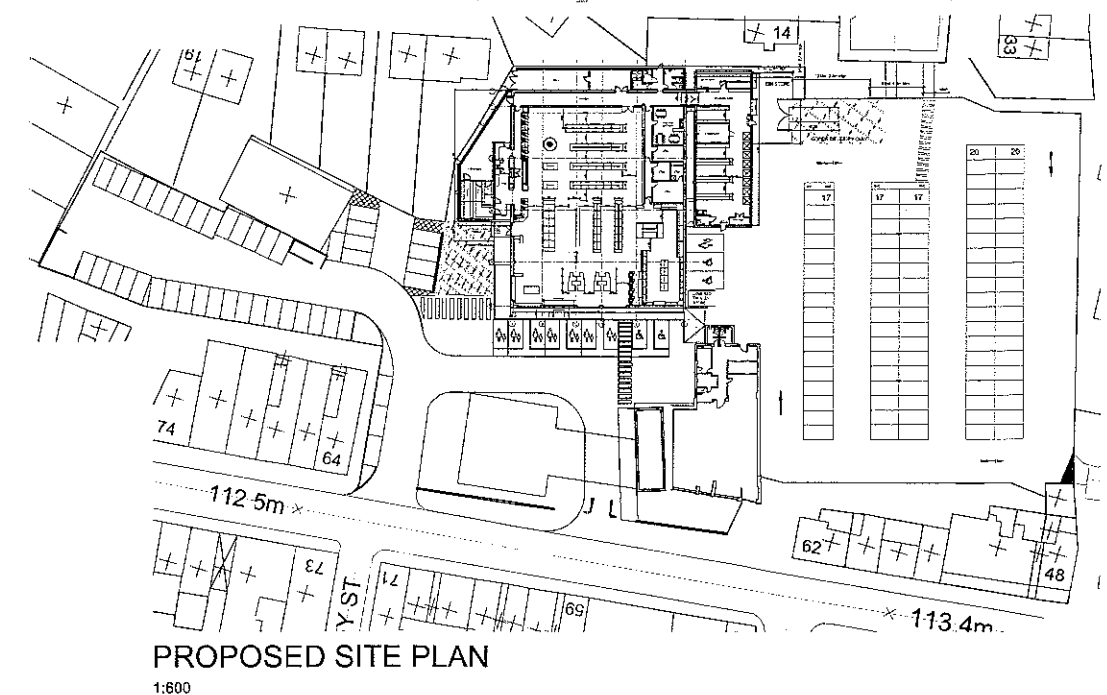
1. **What is the main purpose of the study?**

C 5432 L(00)02

7

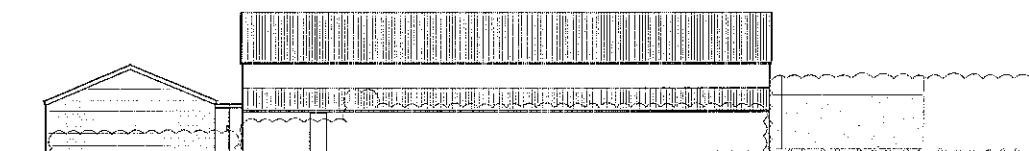


PROPOSED STORE LAYOUT
1:100

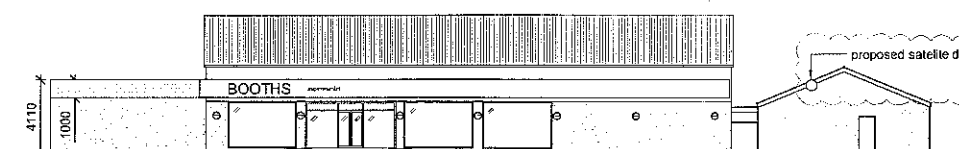


PROPOSED SITE PLAN
1:800

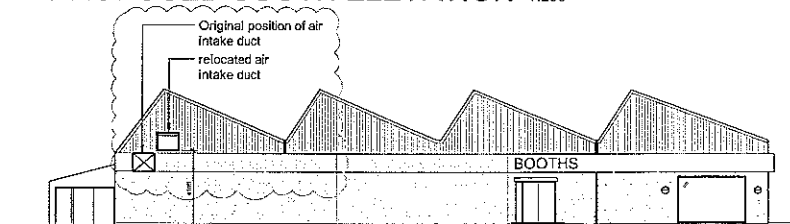
320120953 P



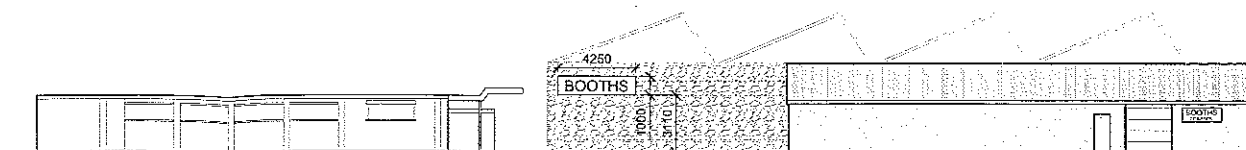
PROPOSED NORTH ELEVATION 1:200



PROPOSED SOUTH ELEVATION 1:200



PROPOSED WEST ELEVATION 1:200



PROPOSED EAST ELEVATION 1:200

6	JRB	all in use do c and satellite dish shown	2011.12.15
7	JRB	Shop layout updated to talk to local council	2011.12.14
8	JRB	Updated to Longridge town council comments	2011.07.22
5	JRB	Warehouse doors updated grid added	2011.07.12
4	JRB DS	Updated to Planning comment 06.20 additional notes added following survey	2011.06.20
3	JRB DS	Updated drawing to add 2011.05.03	2011.06.06
2	JRB DS	Updated to meeting dated 2011.05.19	2011.05.23
1	JRB DS	Updated drawing to add 2011.05.19	2011.05.17
10	by	DS	revision
10	by	DS	revision

BOOTH'S

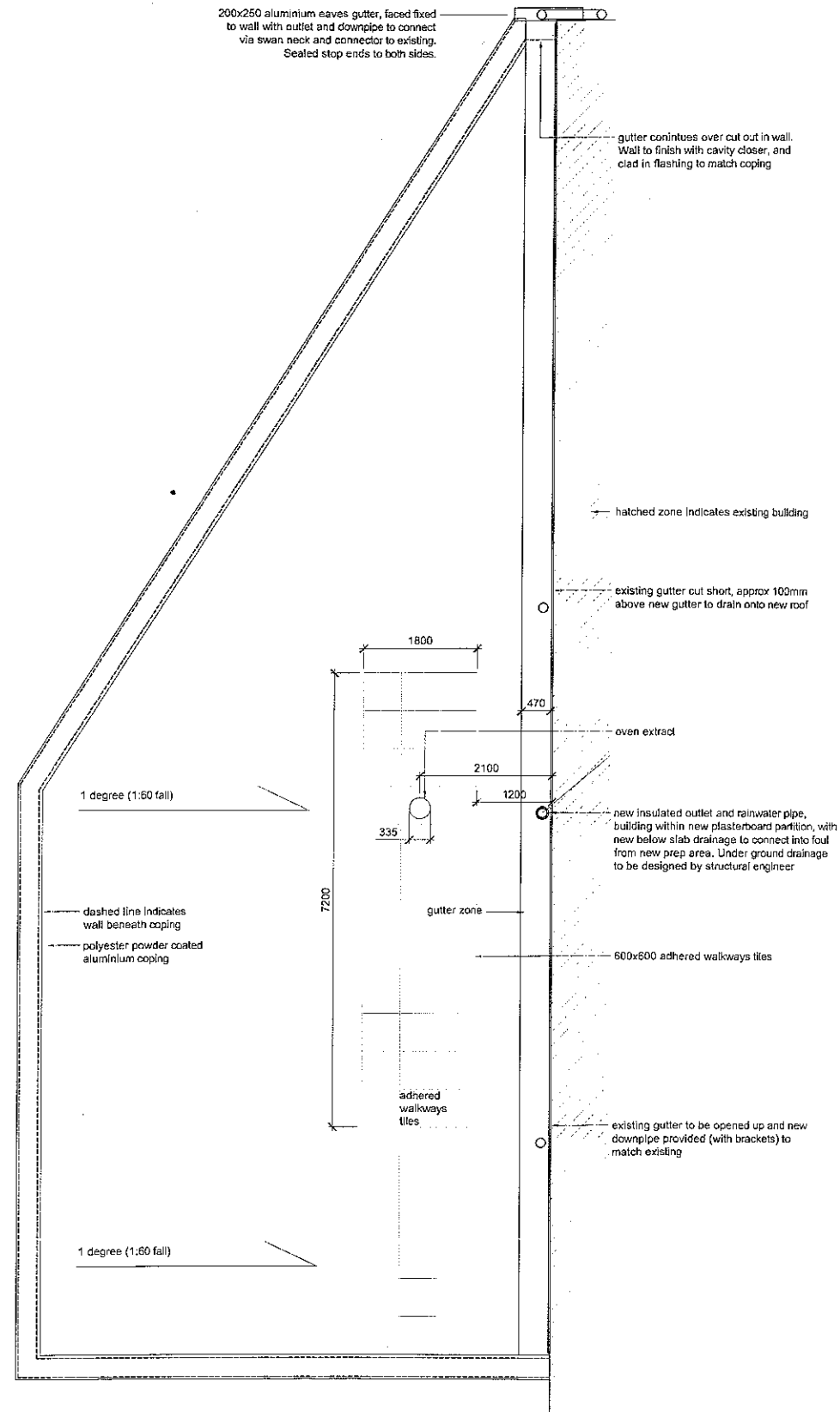
project Extension to Booth's Supermarket
Berry Lane
Longridge

by DS date 20.04.2011 scale 1:100 sheet size A1

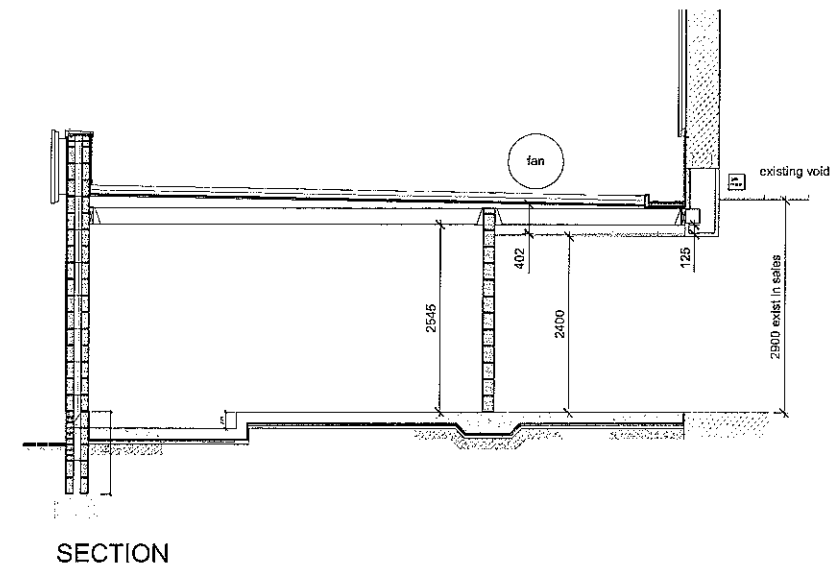
title PROPOSED FLOOR PLAN

status job no/dwg no revision

C 5432 L(1)-02 8



ROOF LAYOUT



320120953P

BOOTHS

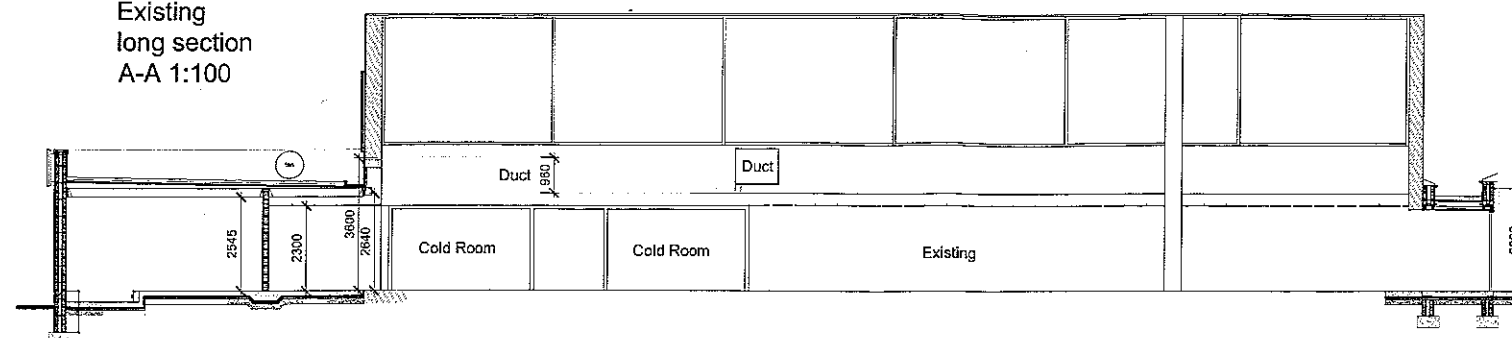
project Extension to Booths Supermarket
Berry Lane
Longridge

by JRB DS 15.12.2011 scale 1:50 sheet size A1

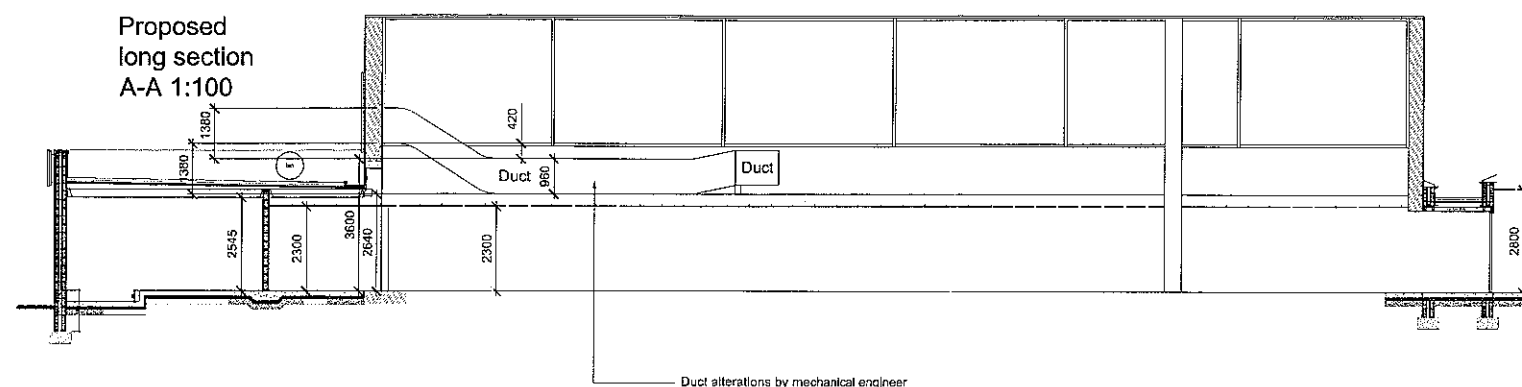
PROPOSED EXTENSION
ROOF PLAN AND SECTION

C 5432 L(1)-05 0

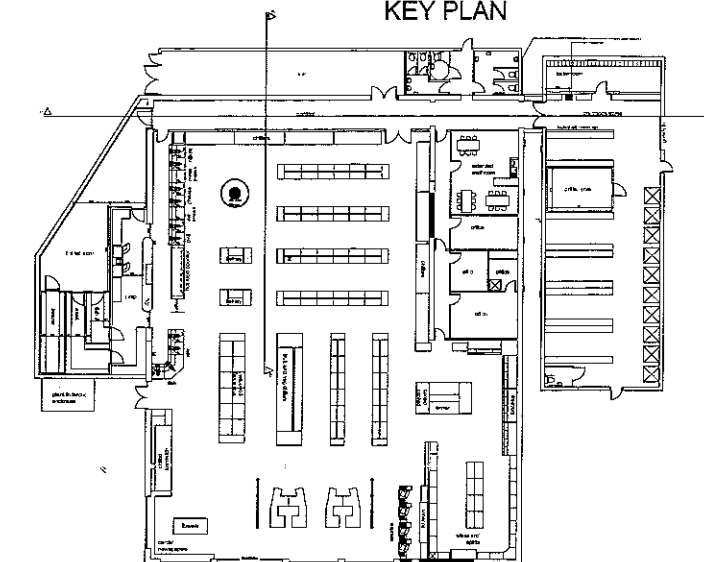
Existing
long section
A-A 1:100



Proposed
long section
A-A 1:100

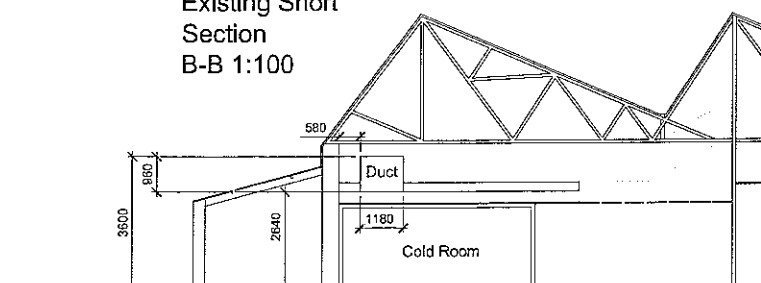


KEY PLAN

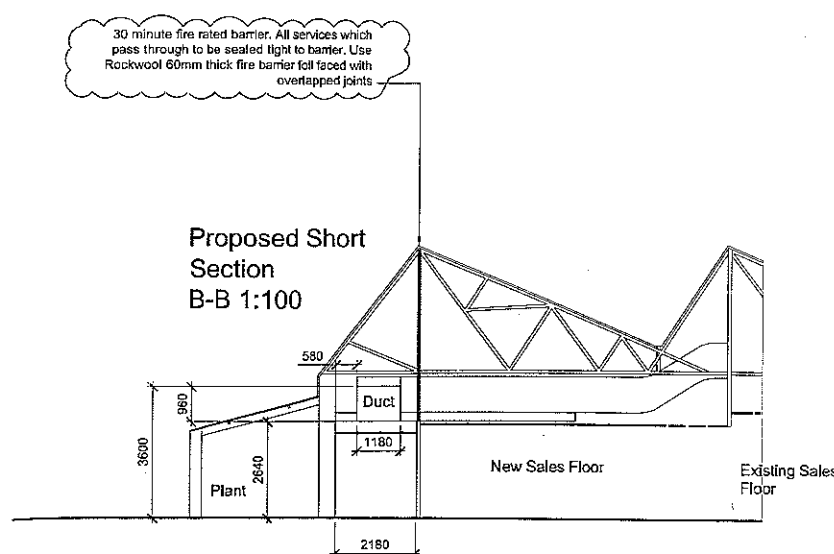


320120953P

Existing Short
Section
B-B 1:100



Proposed Short
Section
B-B 1:100



BOOTHS

Extension to Booths Supermarket
Berry Lane
Longridge

by NW JB 06.10.2011 1:100 A1

Proposed and Existing
Sections

P 5432 L(2)-05

1