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HEATING / HOT WATER / VENTILATION

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Q-VENT CE50

Central Extract System



INSTALLATION, COMMISSIONING
& SERVICING INSTRUCTIONS



Johnson
& Starley



www.johnsonandstarley.co.uk

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In the interest of continuous development Johnson and Starley reserve the right to change specification without prior notice. Johnson and Starley prides itself on it's ability to supply spare parts quickly and efficiently. If your service engineer indicates a problem in obtaining a spare part, advise him to contact Johnson and Starley Spares Department.

1. FEATURES

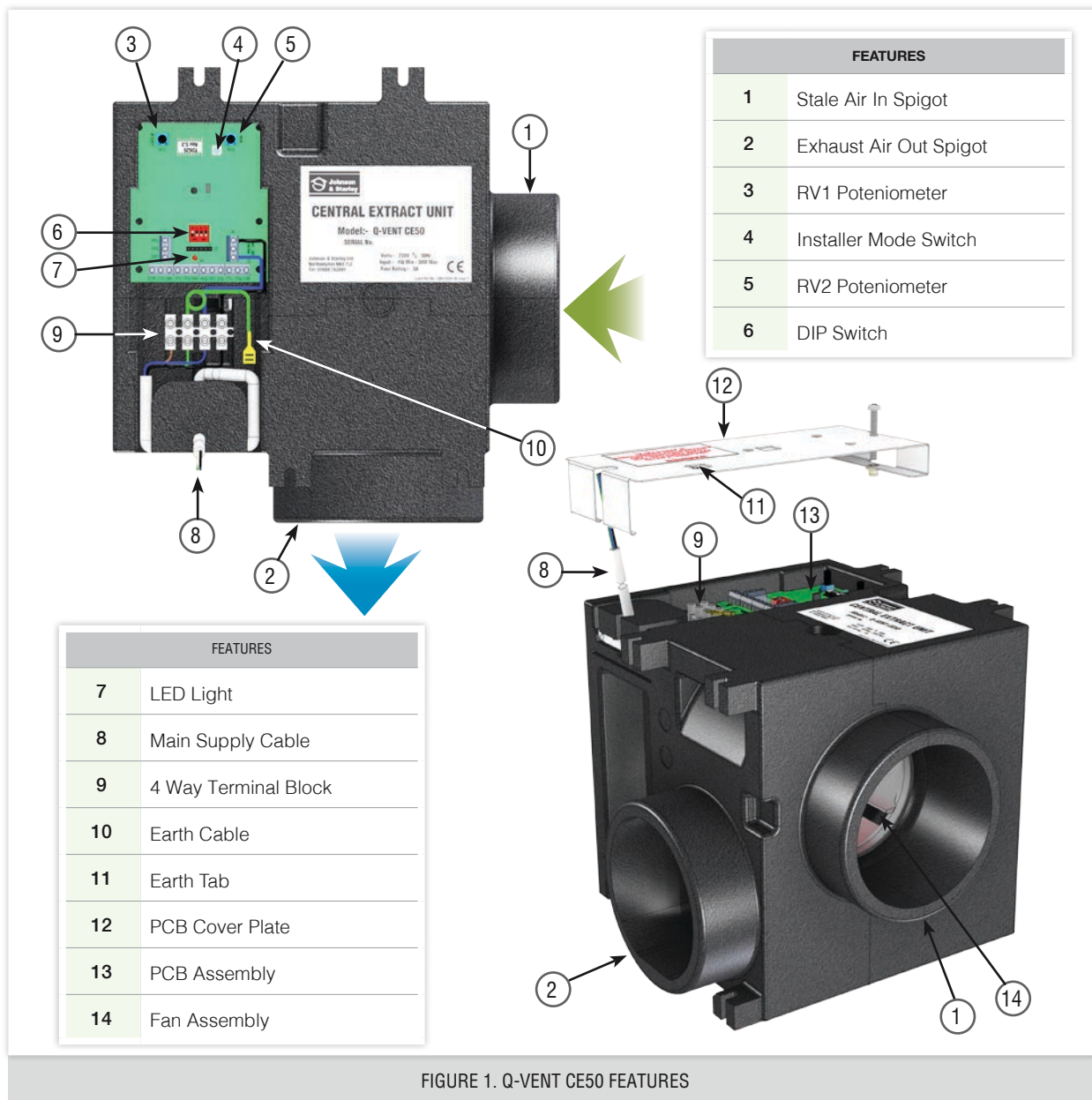


FIGURE 1. Q-VENT CE50 FEATURES

2. CARTON CONTENT

ITEM	DESCRIPTION	QTY
1	Q-Vent CE50	1
2	Fixing Kit	1
	M5 x 25mm Washers	4
	No. 8 x 50mm Wood Screws	4

	Rawl Plugs	4
	16mm Screw Spacers	2
3	Template	1
4	Installation & Users Instructions	1

3. GENERAL DESCRIPTION

- 3.1 Q-Vent CE50 Central Extract System provides mechanical exhaust ventilation from single dwellings. The unit is designed to provide low level extraction from kitchens, bathrooms, shower rooms, utility rooms and WC's to a central extract fan via a system of ductwork and grilles. The extracted air is discharged to outside via a single duct and grille.
- 3.2 The case is constructed from EPP an expanded polypropylene.

4. BUILDING STANDARDS & REGULATIONS



4.1 BUILDING STANDARDS & INSTALLATION REGULATIONS

- Building Standards (Scotland Consolidation) Building Regulations
- Part F of the Building Regulations
- BS 5720 Mechanical Ventilation and Air Conditioning in Buildings
- BS 7671 Requirements for Electrical Installations. Wiring Regulations
- Institute of Electrical Engineers (I.E.E.) Regulations
- Good Practice Guide 268

4.2 The design material specification and installation must only be carried out by competent persons.

5. SAFETY & ELECTRICAL INFORMATION

5.1 SAFETY INFORMATION

- 5.1.1 Ensure the mains supply voltage, frequency, number of phases and power rating comply with details on the rating label on the unit.
- 5.1.2 All wiring must be in accordance with the appropriate standards. The equipment must be provided with a local double pole isolator switch.
- 5.1.3 Ensure safety regulations and practices are adhered to when installing and using this equipment.
- 5.1.4 When a fan is used in or extracting from a room with a fuel burning appliance, the installer must ensure the replacement air is adequate for both the fan and the fuel burning appliance.
- 5.1.5 Do not install this appliance where it is liable to be subjected to water spray or where ducted air ambient temperature may exceed 40°C.
- 5.1.6 When the fan is used to handle moist air, a suitable condensate trap and drainage system should be incorporated in the exhaust duct to ensure safe and healthy operating conditions.
- 5.1.7 DO NOT use this appliance where excessive moisture, excessive dust or fibres, grease or oil laden air, corrosive or flammable atmospheres are present.
- 5.1.8 When installing the unit, take care not to damage electrical or other hidden utilities.
- 5.1.9 Exhaust air must be vented to the outside.
- 5.1.10 The fan motor is fitted with sealed for life bearings and therefore does not require lubrication.

6. TECHNICAL DATA

TABLE 1	TECHNICAL DATA
VOLTS	230V ~ 50Hz
INPUT	4W Min - 60W Max
FUSE RATING	3A

HEIGHT	221mm
WIDTH	264mm
DEPTH	268mm

7. PREPARATION & POSITIONING

7.1 DUCT INFORMATION

- 7.1.1 It is an advantage to have all the compatible ductwork already installed and ready to connect to the spigots.
- 7.1.2 Ducting passing through unheated roof voids should be insulated. Ducting runs should be as straight as possible and the horizontal exhaust ducting should always slope downwards from the Q-Vent CE50 unit.
- 7.1.3 The recommended type of ducting is ridged 125mm Ø OR 202mm x 60mm rectangle plastic duct. The final connection can be made with 125mm Ø flexible duct.
- 7.1.4 Any exhaust duct passing through a roof use a suitable Vertical Terminal or Ridge Terminal. For details on these contact our sales department for further information.

7.2 POSITION OF THE UNIT

- 7.2.1 Ensure there is adequate access for installation and maintenance. Installation can be at any 90° angle. Ensure the selected electrical mains wiring has an isolator near the unit for servicing.
- 7.2.2 Position the Q-Vent CE50 unit taking into consideration the position of the rooms being ventilated, the exhaust exit position and electrical services. Also make sure when choosing you take into consideration the accessibility of the commissioning control.
- 7.2.3 It is the responsibility of the installer to ensure all aspects of the system design are taken into consideration. The Q-Vent CE50 is designed as a ducted unit and should only be used in ducted situations.
- 7.2.4 The unit has one stale air inlet spigot and one exhaust air outlet spigot.

BASE MOUNTED - with ducting connected horizontally and exhaust exiting through a wall or roof terminal. If used in this position make sure there is an adequate working area with a secure base.

VERTICALLY MOUNTED - when using flexible ducting ensure the connections are made, with the correct radius bends.

SUSPENDED - Ensure ductwork is supported throughout its length.

NOTE: A clear space of at least 50mm below and 230mm to the sides is required to allow the cover to be removed and provide sufficient access for maintenance.

7.3 SPIGOTS

7.3.1 The unit has one stale air inlet spigot and one exhaust air outlet spigot.

7.3.2 The spigot has an internal diameter of 100mm and 125mm outer diameter.

7.4 HANDING

7.4.1 If Q-Vent CE50 air flow configuration is required to be handed opposite to the factory default see publication Number ZZ1518 for the correct change procedure.

8. DUCT & DUCT CONNECTIONS

8.1 For satisfactory operation of the unit, ensure ducting used is as detailed on the design drawing. Any deviation from the design drawing could lead to noise increase on boost.

NOTE: In situations where it is either not possible or not desirable to use 125mm ducting on the stale air outlet, 100mm ducting can be used but it **MUST** be noted, in 'BOOST' mode, it might increase noise levels.

8.2 Where 125mm rigid ducting is used it must fit on the 125mm (outer) spigots and for 100mm ducting on the 100mm (inner) spigots.

IMPORTANT: When inserting 100mm ducting into the spigot, ensure it is no longer than 45mm.

8.3 Where rigid ducting is used, it should be installed using the least number of fittings to minimise resistance to air flow. Where possible, final connection from the rigid ducting to grilles and the unit should be made with a flexible connection.

8.4 The exhaust air must exit to outside through either a wall or a roof and must be protected by a wall baffle or recognised roof terminal.

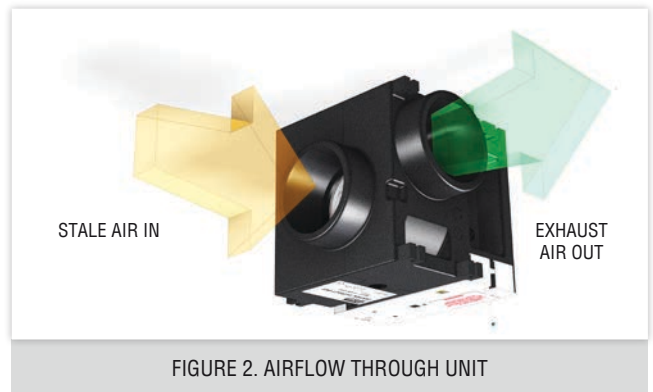


FIGURE 2. AIRFLOW THROUGH UNIT

9. INSTALLATION INSTRUCTIONS

IMPORTANT: The installation should be carried out by a competent person in accordance with the appropriate authority and conforming to all the statutory and governing regulations.

NOTE: The enclosure of this product is made from EPP. Failure to use the correct screw spacers or the over tightening of any screws may damage the appliance.

9.1 Identify the directional airflow requirements and determine if the factory configuration is suitable. If not, then refer to document ZZ1518 to re-configure to an alternative airflow.

9.2 Place the template in the position and drill the 4 fixing holes. Take into consideration the material you are drilling into and use appropriate screws and fixings to support the unit. Use the rawl plugs where necessary. Use the M5 x 25mm washers and screw spacers provided. Alternative fixings may be used if deemed more suitable to the site requirements at the time of installation. These are not included.

9.4 Fix the 2 screws, washers and 16mm spacers into the Air Out/Exhaust fixing holes as shown on the template. **DO NOT OVER TIGHTEN.**

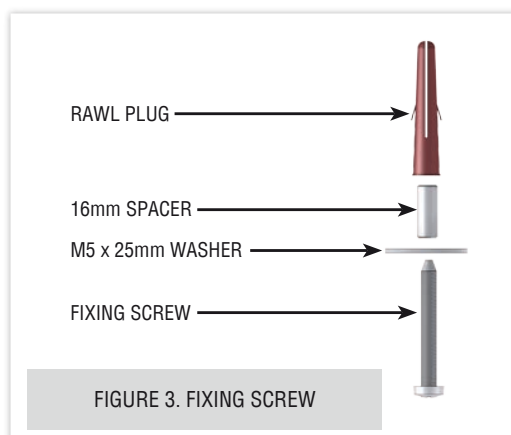


FIGURE 3. FIXING SCREW

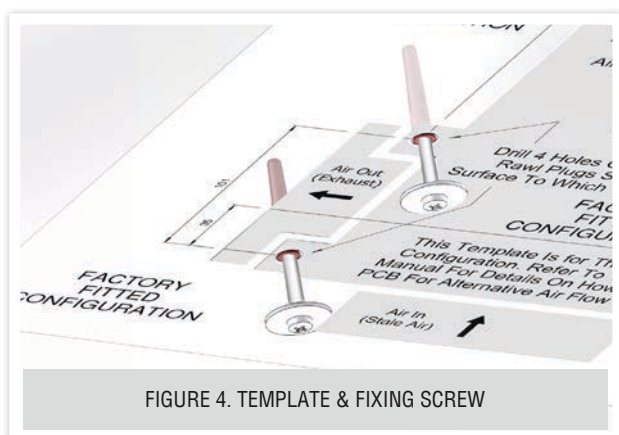


FIGURE 4. TEMPLATE & FIXING SCREW

- 9.5 Line up the unit to the surface and slide into position on the 2 fixings. The tabs will compressed slightly for a secure fit.

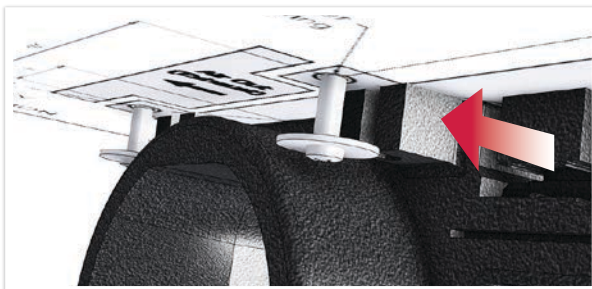


FIGURE 5. FRONT FIXING

- 9.6 Support the appliance and screw in the rear 2 screws with washer.

DO NOT OVERTIGHTEN OR CRUSH THE FIXING TABS.

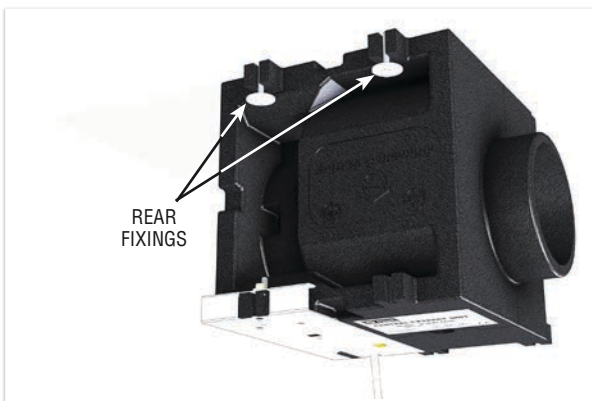


FIGURE 6. REAR FIXING

10. ELECTRICAL

WARNING: THIS APPLIANCE MUST BE EARTHED. ALL WIRING MUST CONFORM TO INSTITUTE OF ELECTRICAL ENGINEERS (I.E.E.) REGULATIONS & BS 7671

- 10.1 The unit is designed to be wired directly to the mains supply through a fused spur, isolator which allows it to run continuously.
- 10.2 The unit is suitable for a 230V, 50Hz single phase supply fused at 3A.
- 10.3 The unit is supplied with a mains flexible cord (PVC sheathed, 4-core brown, blue, black and green/yellow 0.75mm² to BS 6500,) connected to a terminal block and exiting through a cable clamp.
- 10.4 A fused spur, or double pole switch having a minimum contact separation of 3.0mm, must be used to provide isolation for the unit.

10.5 ELECTRICAL WIRING OPTIONS

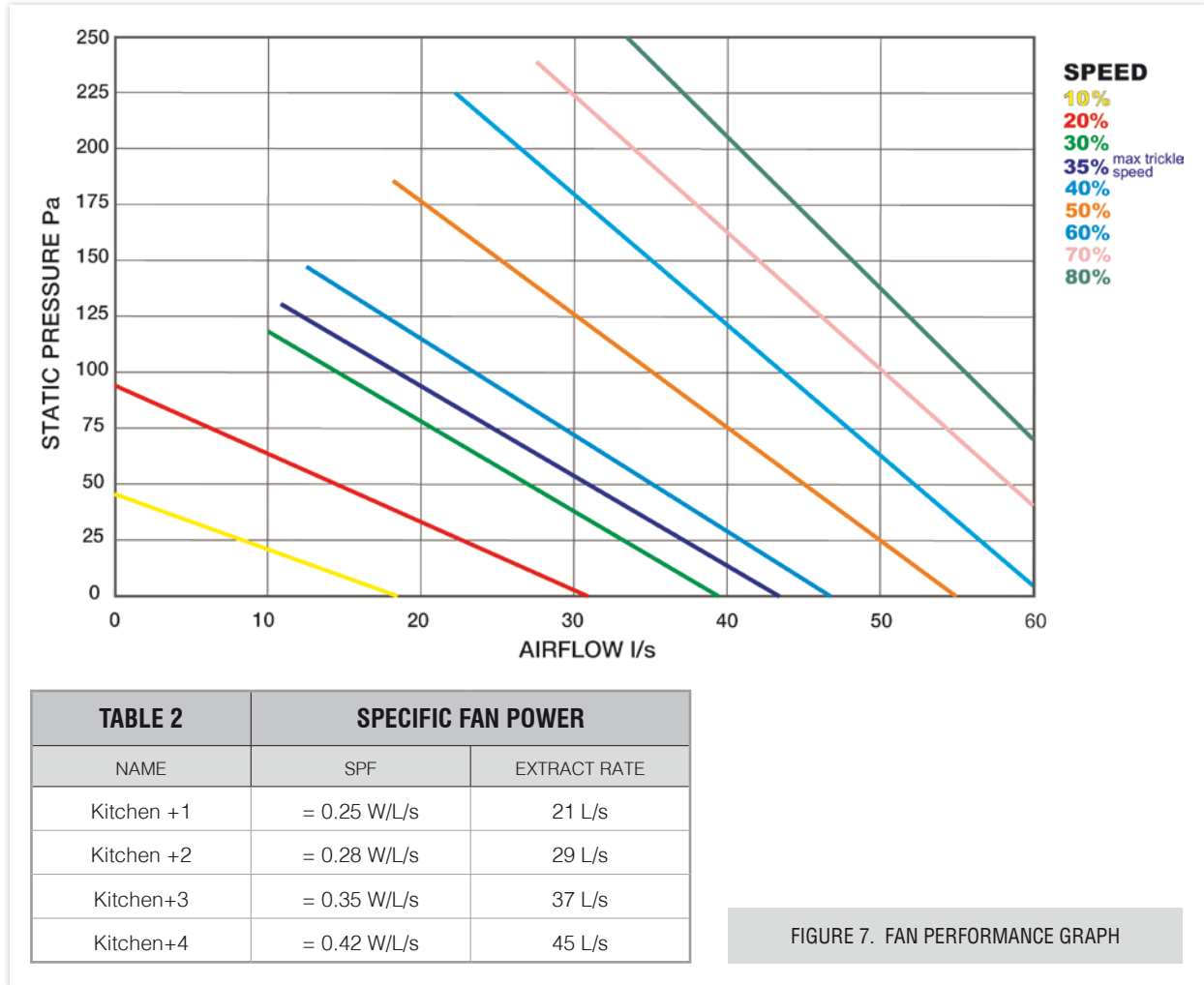
- 10.5.1 A facility is included which boosts the fan duty as required. The boost can be achieved by the following method:-
- 10.5.2 Connecting black wire (from the mains lead) to an external 230V AC live source e.g. bathroom double pole light switch or humidistat.

10.6 OVER-HEAT PROTECTION

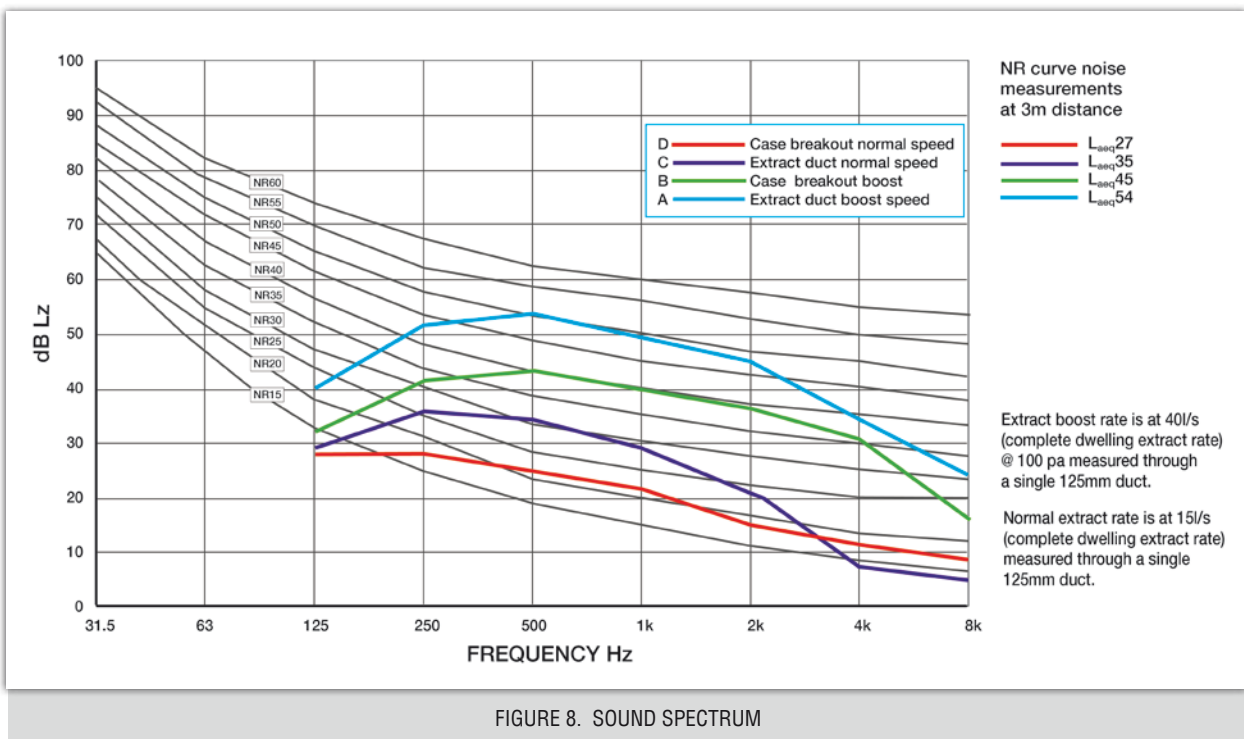
- 10.6.1 The fan motor is fitted with standard thermal Overload Protection. This will automatically switch the fan off in the event of a fault condition.
- 10.6.2 If this occurs electrically isolate the fan, check for and remove any obstruction, leave for a short time for the motor to cool before reconnecting. If this recurs, isolate and contact a service engineer.

11. SPECIFIC FAN PERFORMANCE

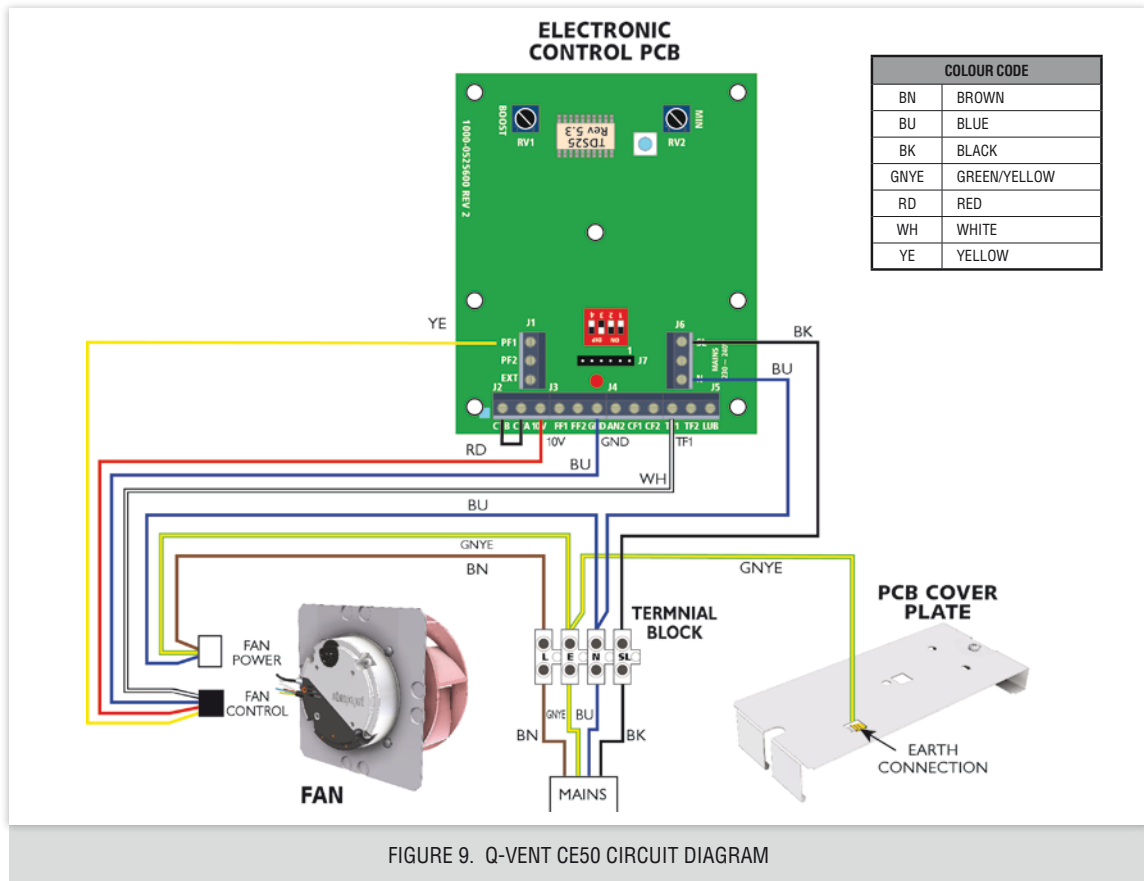
NOTE: Performance graphs shown for two extracts, kitchen & bathroom



12. SOUND SPECTRUM

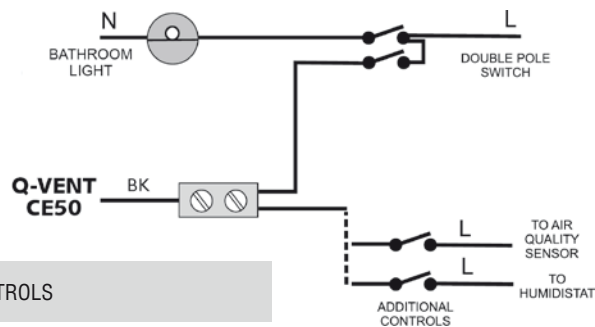


13. CIRCUIT DIAGRAM



12.1 ADDITIONAL CONTROLS

- i) Humidistat Sensor
- ii) Pull Cord, i.e bathroom
- iii) Air Quality Sensor
- iv) Boost Override



14. COMMISSIONING

14.1 PRE COMMISSIONING CHECK

Before commencing the commissioning procedure, refer to the design drawing for correct airflows.

14.1.1 Ensure that the extract valves are open.

14.1.2 Check the airflow at the valves, and adjust to suit the design figures.

14.2 INSTALLER MODE

NOTE: The install mode has a time out function. If the unit has been powered up but not commissioned within 3 hours then you will not be able to access the installer mode without first turning the power supply off for 10 seconds and then back on again.

This function is there to allow for situations where the unit is not taken out of installer mode.

14.2.1 To activate 'Installer Mode' isolate the electrical supply, wait 5 seconds and reconnect.

14.2.2 When installer mode is ready the red LED indicator will start flashing every second. Now extract and supply fans can be adjusted.

14.2.3 To set trickle see paragraph 14.3.4.

14.2.4 To set boost see paragraph 14.4.4.

14.2.5 Once both settings are correct press installer mode switch.

14.2.3 To exit Installer Mode once both settings are correct isolate the electrical supply, wait 5 seconds and reconnect.

14.2.4 When out of installer mode the Red LED will stop flashing.

14.3 TRICKLE AIRFLOW ADJUSTMENT ONLY

- 14.3.1 To adjust this the boost control should be OFF (NO SWITCH LIVE).
- NOTE:** During the adjustment do not switch boost control ON (SWITCH LIVE) as this will affect the boost settings.
- 14.3.2 Put into installer mode.
- 14.3.3 To adjust the TRICKLE setting turn the RV1 clockwise ⤴ to increase the airflow rate and anti-clockwise ⤵ to decrease the airflow rate to the required setting.
- 14.3.4 When the trickle airflow is set to the desired rate, exit installer mode.

14.4 BOOST AIRFLOW ADJUSTMENT ONLY

- 14.4.1 To adjust this, the boost control should be set to ON. (SWITCHED LIVE)
 - NOTE:** During the adjustment do not switch boost control OFF (SWITCHED LIVE) as this will affect the boost settings.
 - 14.4.2 Activate 'Installer Mode'
 - 14.4.3 To adjust the BOOST setting turn RV1 clockwise ⤴, to increase the airflow rate and anti-clockwise ⤵ to decrease the airflow rate to required setting.
 - 14.4.4 When the boost airflow is set to the desired rate, exit 'Installer Mode'.
- IMPORTANT NOTE:** After fan speed setting has been completed and the unit is no longer in installer mode the RV1 (Fan adjust/boost overrun) is used to set the booster overrun time. Set fully anti clockwise for no boost overrun and fully clockwise for 30 minutes boost overrun. The adjustment is linear so mid position will give approximately 15 minutes boost overrun.

14.5 DIP SWITCH SETTINGS

- 14.5.1 BOOST LIMIT - limits the maximum boost speed available on the speed adjustment.
- 14.5.2 BOOST ON DELAY - gives a 2 minute delay in boost speed after a boost switch demand is initiated.

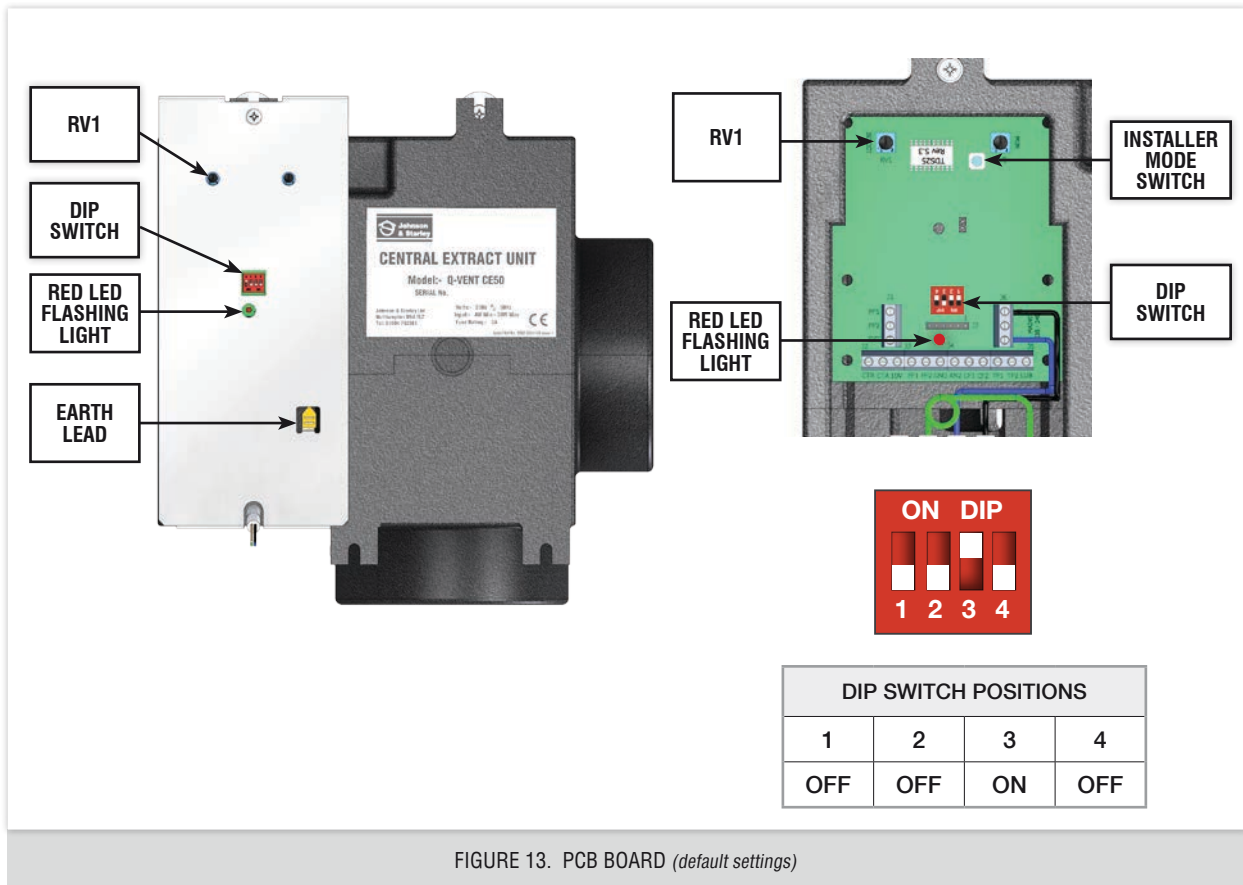


FIGURE 13. PCB BOARD (default settings)

15. SERVICING & MAINTENANCE

IMPORTANT: Before commencing any servicing or component replacement ensure the electrical supplies to the unit and ancillary control are ISOLATED.

15.1 The unit will need inspecting on a regular basis. The fan should be cleaned to ensure there is no build-up of dirt or other deposits.

NOTE: The fan is a sealed unit and will not need lubrication.

15.2 Disconnect the ducting from the spigots and wipe the inside clean with a damp cloth.

15.3 If replacements part are needed telephone Johnson & Starley Ltd 01604 762881 for further information.

16. USERS INSTRUCTIONS

16.1 Hand the User Instructions to the householder, explain and demonstrate how to use the unit.

16.2 Show how the unit is turned on at the fused spur.

16.3 The unit will now commence extraction at the minimum set speed.

16.4 If the unit is fitted with remote automatic boost switch, demonstrate how the boost works by automatically boosting the airflow to a predetermined extract rate.

16.5 The period of time the unit will run at boost speed will depend upon the type of automatic boost control fitted.

16.6 Explain the unit will need inspecting and cleaning on an annual basis. See section 15 for cleaning the fan and spigots.

17. DIMENSIONS

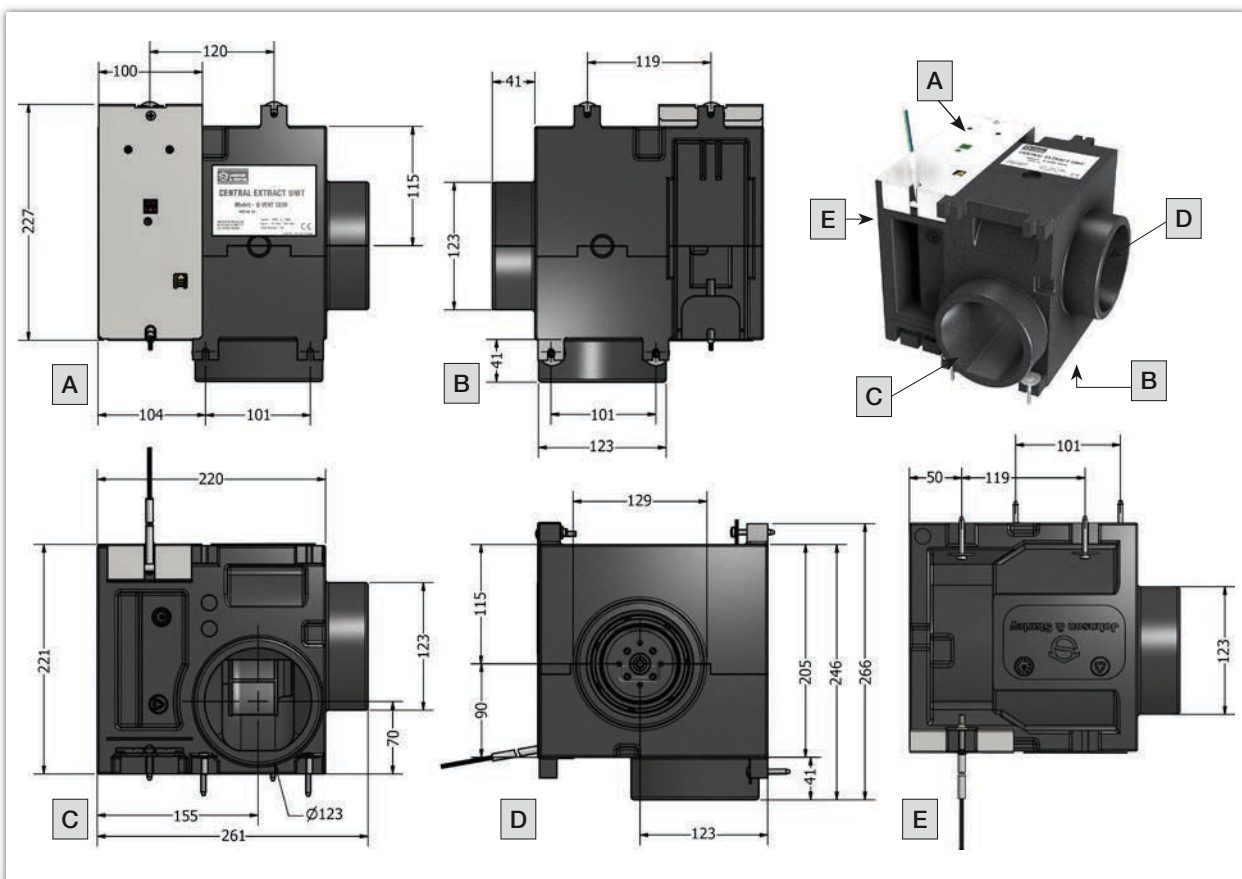


FIGURE 14. Q-VENT CE50 DIMENSIONS

18. EXPLODED DIAGRAM

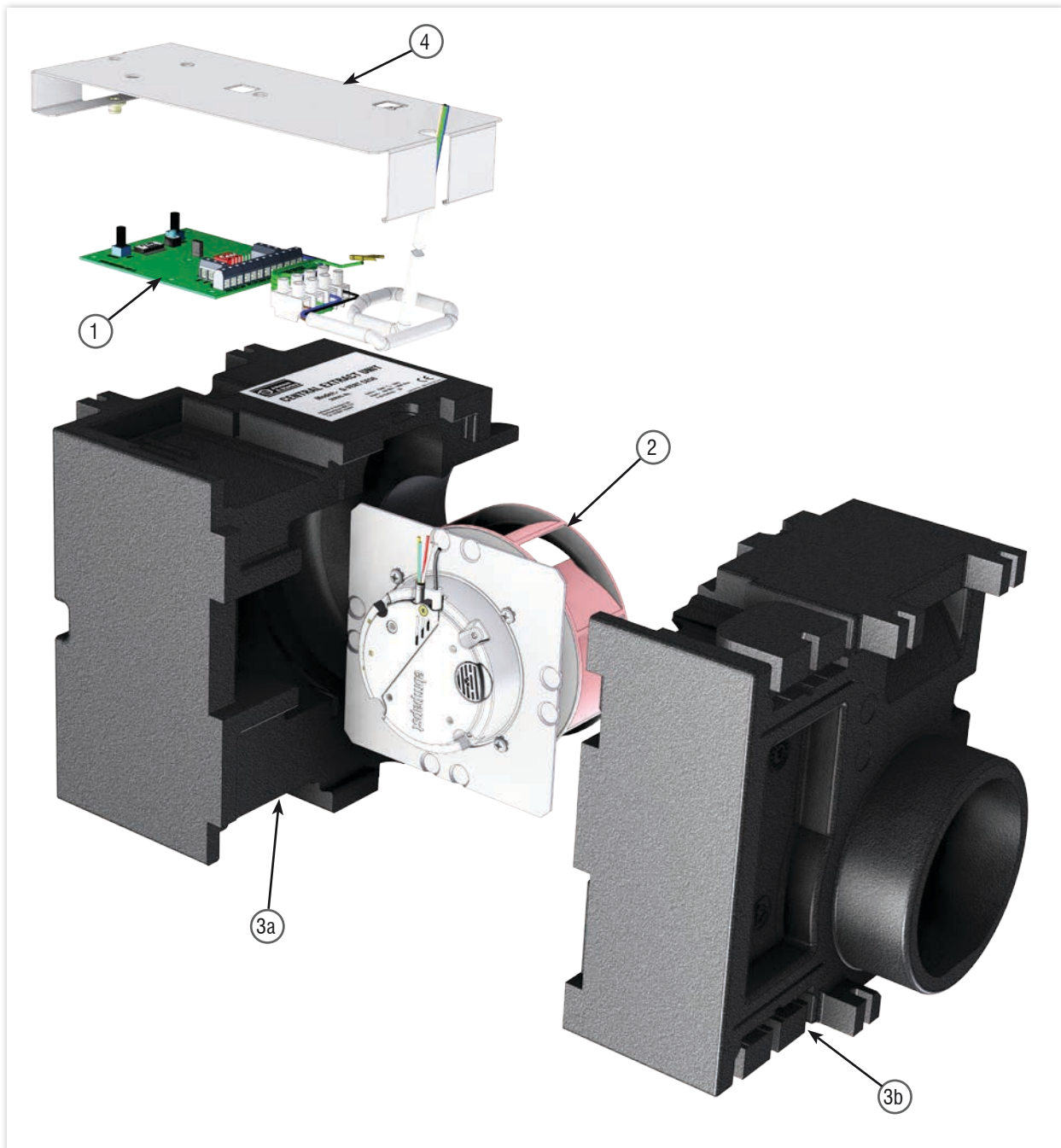


FIGURE 165. Q-VENT CE50 EXPLODED DIAGRAM

19. SPARE LIST

ITEM	PART No.	DESCRIPTION	QTY
1	1000-0525605	PCB Assembly	1
2	CE50 0520005	Fan Assembly	1
3 a/b	1000-0028825	Outer Fan Casing 2 part set	1
4	CE50-0105005	PCB Cover Plate	1



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under one roof

Johnson & Starley Ltd

Rhosili Road, Brackmills,
Northampton NN4 7LZ

sales@johnsonandstarley.co.uk

marketing@johnsonandstarley.co.uk

Reception/Customer Service

01604 762881

Fax

01604 767408

