Acoustic Cabinet Fans Single - EC Motor

QSS-EC and EM-EC Internal and External

Installation, Operationand Maintenance Manual

Introduction

The QSS-EC and EM-EC range encompasses 7 models of direct driven centrifugal fans with airflow duties up to 3.9 m^3/s.

Motor is pre-wired to an external control panel CP/EC/SF with speed controller and isolator.

General Construction

Casework is manufactured from 0.9mm to 1.5mm thick galvanised sheet steel (EM models are also powder coated to BS 10 A 05) with an 'O' class foam/barrier mat insulation to provide acoustic insulation.
Access is via removable top cover

Inspection Upon Receipt Of Goods

Immediately upon receipt of any goods, a careful inspection should be undertaken to ensure neither damage nor missing parts. Particular attention should be paid to the fan impeller, motor shaft, anti-vibration mounts, flexible connection, coil connection and casework.

In the event of such damage or loss having occurred, inform **AVT (01264 356415) WITHIN 3 WORKING DAYS** of the delivery date, giving the serial number which can be found on the name-plate. After this period we will be unable to entertain any claim for loss or damage.

Handling

Units must be handled with care to avoid damage, particularly units being craned into position. A spreader bar should be employed so as to prevent damage to the top of the unit.

Installation

When installing our equipment, the following must be observed:

Safety: It is the responsibility of the installer to ensure that the installation complies with the legal regulations and the current **HEALTH AND SAFETY AT WORK ACT**.

Ambient Temperatures: The range of units covered by this manual are designed for use in an environment where the ambient air temperature is unlikely to exceed 40°C.

Mounting / Positioning: These units must be mounted in the horizontal plane mounted on a completely flat base. Other options available on request

QSS-EC and EM-EC units have integral mounting points.

Duct Connections: Adjoining ductwork should always be independently supported to avoid undue stress on the unit casing. Impellers are statically and dynamically balanced, and anti-vibration mounts and fast clamps are available to suit.

Access: All units are designed with easily removable components for maintenance purposes. Sufficient room should be allowed adjacent to the unit to allow components to be withdrawn.

Electrical Wiring

Electrical supply must be fully isolated before attempting any work on the unit.

All wiring should be carried out by a competent electrician and should comply fully with the current I.E.E. Wiring Regulations.

The electrical supply must be as stated on the nameplate.

When the wiring is complete, check for free and correct rotation of the fan impeller

Maintenance

6 Monthly: The fan impeller should be carefully cleaned with a brush. This will prevent it becoming unduly dirty and unbalanced.

12 Monthly: The security and integrity of all fastenings should be checked. Particular attention should be paid to the impeller fixing onto the fan shaft.

Model	Motor Power Watt	Phase	FLC A
QSS/EM150-EC	50	1Φ	0.46
QSS/EM200-EC	83	1Φ	0.75
QSS/EM250-EC	170	1Φ	1.40
QSS/EM315-EC	470	1Φ	3.00
QSS/EM350-EC	500	1Φ	2.20
QSS/EM450-EC	1300	1Φ	6.80
QSS/EM560-EC	4150	3Φ	6.30

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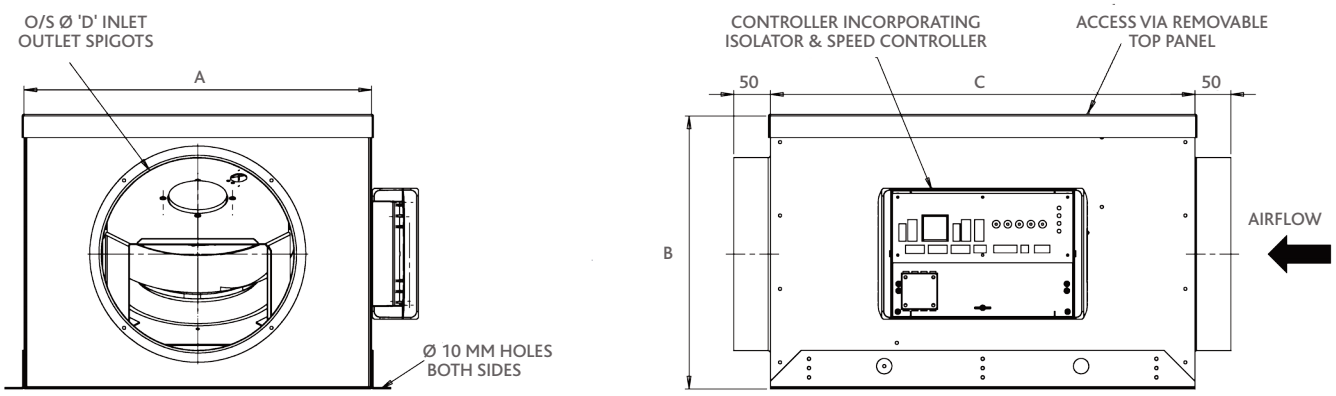
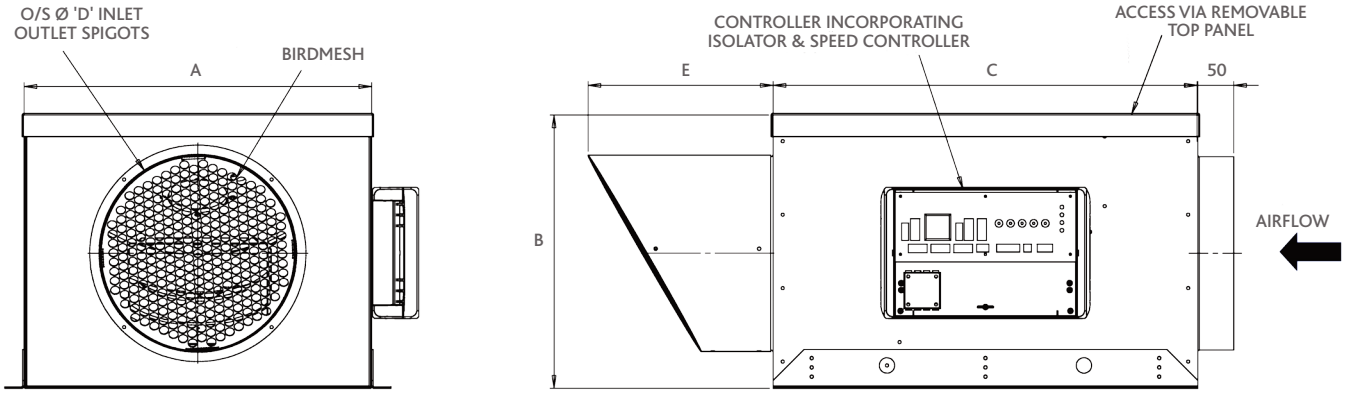
Dimensions

SINGLE INTERNAL



SINGLE INTERNAL AND EXTERNAL						
Model	A	B	C	D	E	kg internal
QSS/EM150-EC	250	250	300	150	180	9
QSS/EM200-EC	350	250	400	200	210	14
QSS/EM250-EC	450	350	550	250	240	26
QSS/EM315-EC	550	400	600	310	275	32
QSS/EM350-EC	650	550	650	350	295	45
QSS/EM450-EC	750	650	975	450	350	74
QSS/EM560-EC	950	800	1100	560	415	114

SINGLE EXTERNAL



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QSS-EC and EM-EC Range
Acoustic Cabinet Single Fans - EC Motor - Internal and External
Installation, Operation & Maintenance Manual
CP/EC/SF1 AND CP/EC/SF3 - SINGLE FAN CONTROL PANELS

Introduction
Designed as a controls option for the Air Vent Technology single fan products.
There are two models in the range;
CP/EC/SF/1 – Suitable for single phase fan motors, for a 230V 50Hz single phase mains supply
CP/EC/SF/3 – Suitable for three phase fan motors, for a 400V 50Hz three phase mains supply

General Descrption
- IP65 rated enclosure
- Fascia isolator
- Individual fan motor fuses
  - MCB for 3 phase fan motors
- Illuminated Indication
  - Panel live indicator
  - Fan run indicator
  - Fan fault indicator
  - Boost indicator
- Customer connections
  - VFC BMS enable
  - VFC BMS boost
  - Fan fault BMS link
  - Remote 0-10V speed control

Installation
The CP/EC/SF is supplied fitted to the unit. It is pre-wired to fan motor and mains isolator and is suitable for internally and externally mounted units.
The enclosure is opened with a flat-head screwdriver to release the hinge, and two Philips head screws beneath the open hinge.

Electrical Wiring
Electrical supply must be fully isolated before attempting to affect any work on the unit.
All wiring should be carried out by a competent electrician and should comply fully with the current I.E.E. Wiring regulations.

Operation
- On initial power-up the fault relay will be energized into the normal "No Fault" condition.
- Fan 2 will run for 30 seconds to allow the control to monitor the correct running of the fan.

Fan Speed Control
TRICKLE V – Trickle speed 0% - 100%
BOOST V – Boost speed 0% - 100%
RUN ON TIME – Boost run-on time 0 – 20 minutes

BMS
- **VFC Enable** – shipped linked
- **VFC Boost** – Fan will run at Trickle set-point until the link is closed. Fan will continue to run at Boost set-point as long as the link is closed or for the duration of the run-on time. Boost LED remains solidly illumiated when activated, and flashes during run-on period
- **Remote Speed** – A 0-10V signal can remotely vary the fan speed between the Trickle and Boost set-points as minimum and maximum limits
- **Fault Relay** – To prevent false positives, a continual fault of 30 seconds is required before a fault condi tion is reported. Upon a fault condition the relevant fan LED will flash and relay will switch to fault con dition. Faults are reset upon a power cycle. Relay rated for 12A / 250Vac

LEDs
POWER – Solid illumination when controller has power applied
FAN1 – Not applicable - always off
FAN 2 – Solid illumination when active, flashing when in fault
BOOST - Solid illumination when active, flashing when in run-on period

TEST MODE
All unit are test run before dispatch to confirm correct operation of the above functions. There is a factory test mode to aid troubleshooting. Contact Air Vent Technology if assistance is required with troubleshooting.

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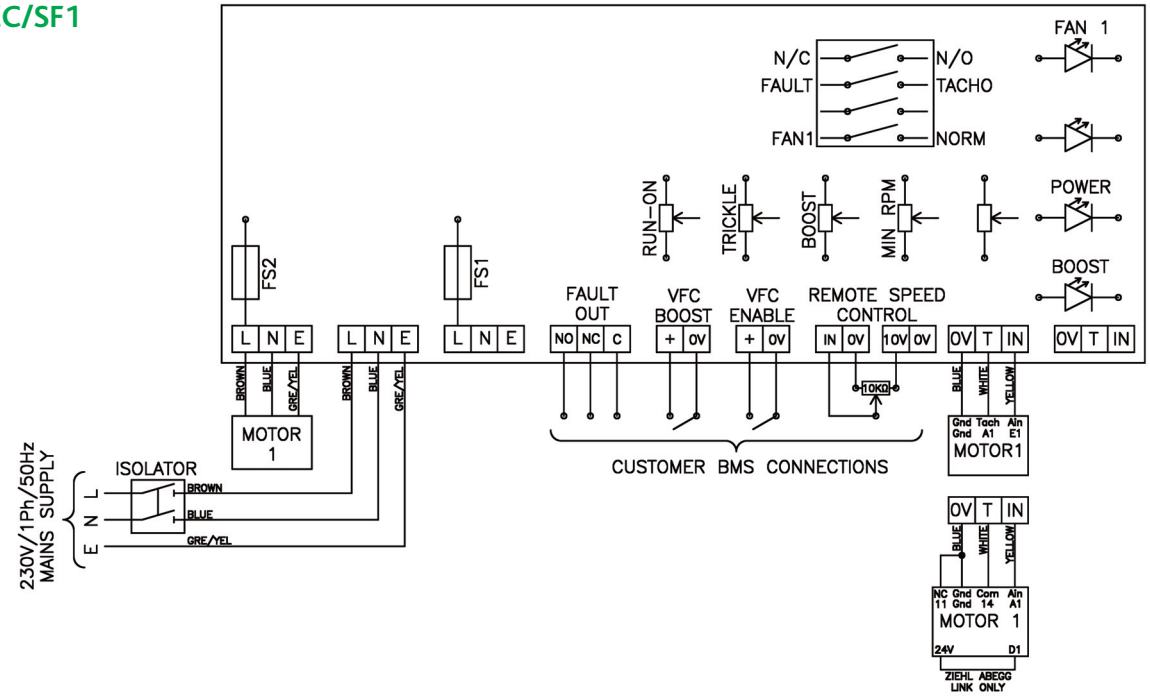
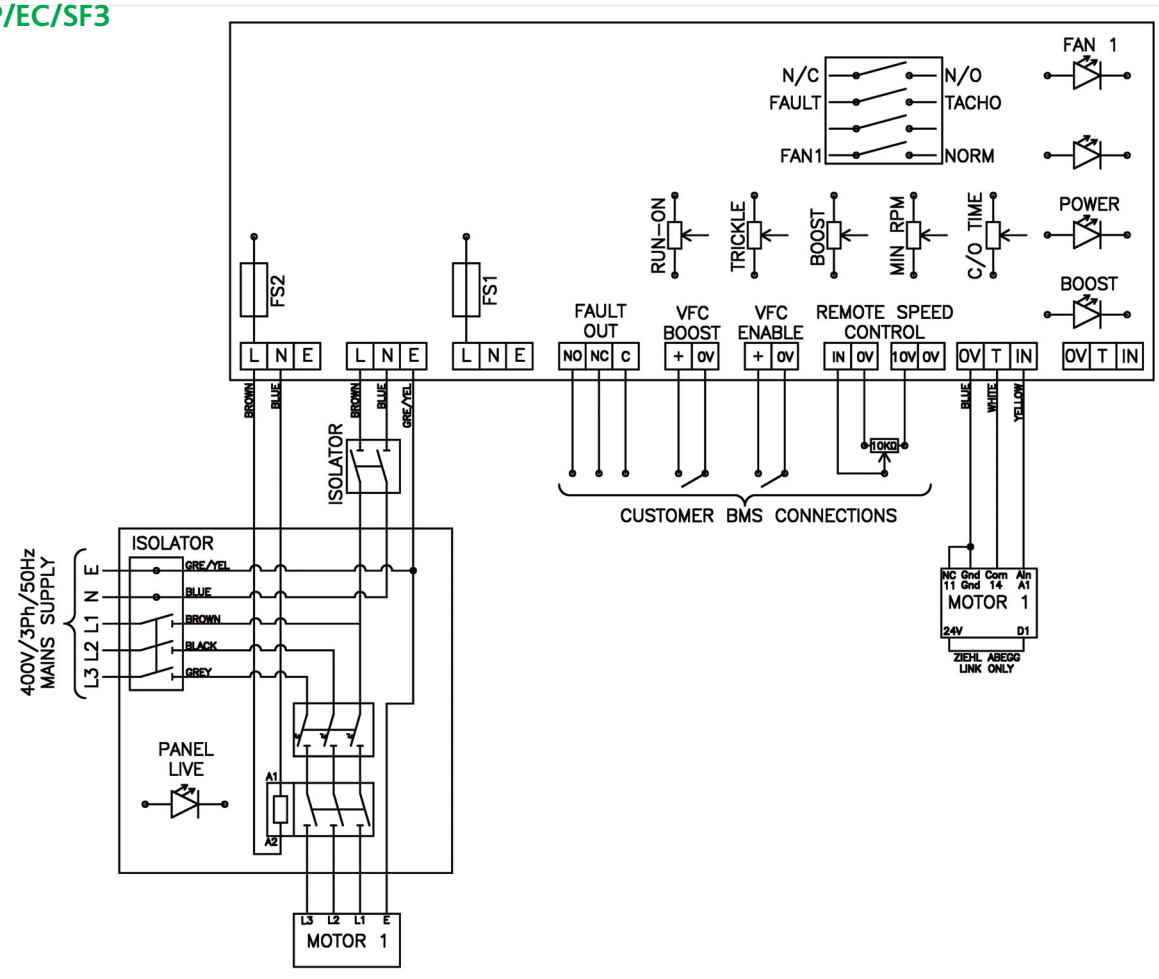
CP/EC/SF1 AND CP/EC/SF3 - SINGLE FAN CONTROL PANELS

CP/EC/SF1



CP/EC/SF3



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