

# QBK Range High Temperature Fans Installation, Operation and Maintenance Manual

## Introduction and General Construction

Designed for internal applications, the QBK range has a standard construction of double-skinned panels with mineral wool infill. Each skin is powder-coated, galvanised sheet steel. A 30mm MEZ flange is fitted on both the inlet and discharge. Fans are pre-wired to an externally accessible terminal box.

For maintenance purposes, the fitting of access panels both up and downstream in adjoining ductwork is recommended. Alternatively, the unit can be unbolted from adjoining ductwork.

## 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 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.

## Safety Information

The QBK range are not ready-to-use products and are only to be put into operation after they have been built into machines, ducted systems or when suitable guards have ensured their safe operation.

Installation must be carried out in such a manner that contact with rotating parts is **NOT** possible.

The units are **NOT** suitable for use in a potentially explosive atmosphere or in flue ducts.

These units are **NOT** suitable for external applications unless the roof accessory is fitted.

The fans must be installed so that safe operation and maintenance is ensured. Safety devices, IE guards, must **NOT** be dismantled, circumvented or made inoperative.

## Handling

All QBK fans are packed to withstand normal transport handling.

When handling goods, ensure suitable lifting equipment is employed to prevent damage to goods and personnel.

These units do **NOT** have lifting eyebolts.

**Note:** Do **NOT** lift the fans by the connecting cable, connection box, and impellor or inlet cone.

Avoid blows or shock loads.

Be on the alert for any damage on the packaging or the fan.

The fans should be stored in a dry area, protected from the weather and dirt until final installation.

During storage, rotate the impellor periodically to prevent bearing seizure.

Avoid excessive storage periods. We recommend a maximum of one year..

## 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**, and that installation is carried out by competent personnel and in accordance with current regulations

**Ambient Temperatures:** The range of units covered by this manual are designed for use with airflow temperatures up to 120°C.

Before mains voltage is connected the unit must be suitably earthed.

Electrical connections should be made in accordance with the wiring diagram located in the terminal box or by markings on the terminal block (and in this document). If none are available contact the supplier.

**Note:** Do **NOT** use metal compression gland fittings with plastic terminal boxes.

Fans with thermal contacts having external leads must be connected to external motor protection. This device should have a manual re-set so that automatic re-starting after failure is not possible.

The fan should be installed so that vibrations are not transmitted to duct systems or the frame of the building. Suitable accessories such as fast clamps and anti-vibration mounts are available.

Make sure the installation of the unit is secure and stable. Units **MUST** be installed to enable easy servicing.

Installing a suitable silencer can eliminate excessive noise.

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#### 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.

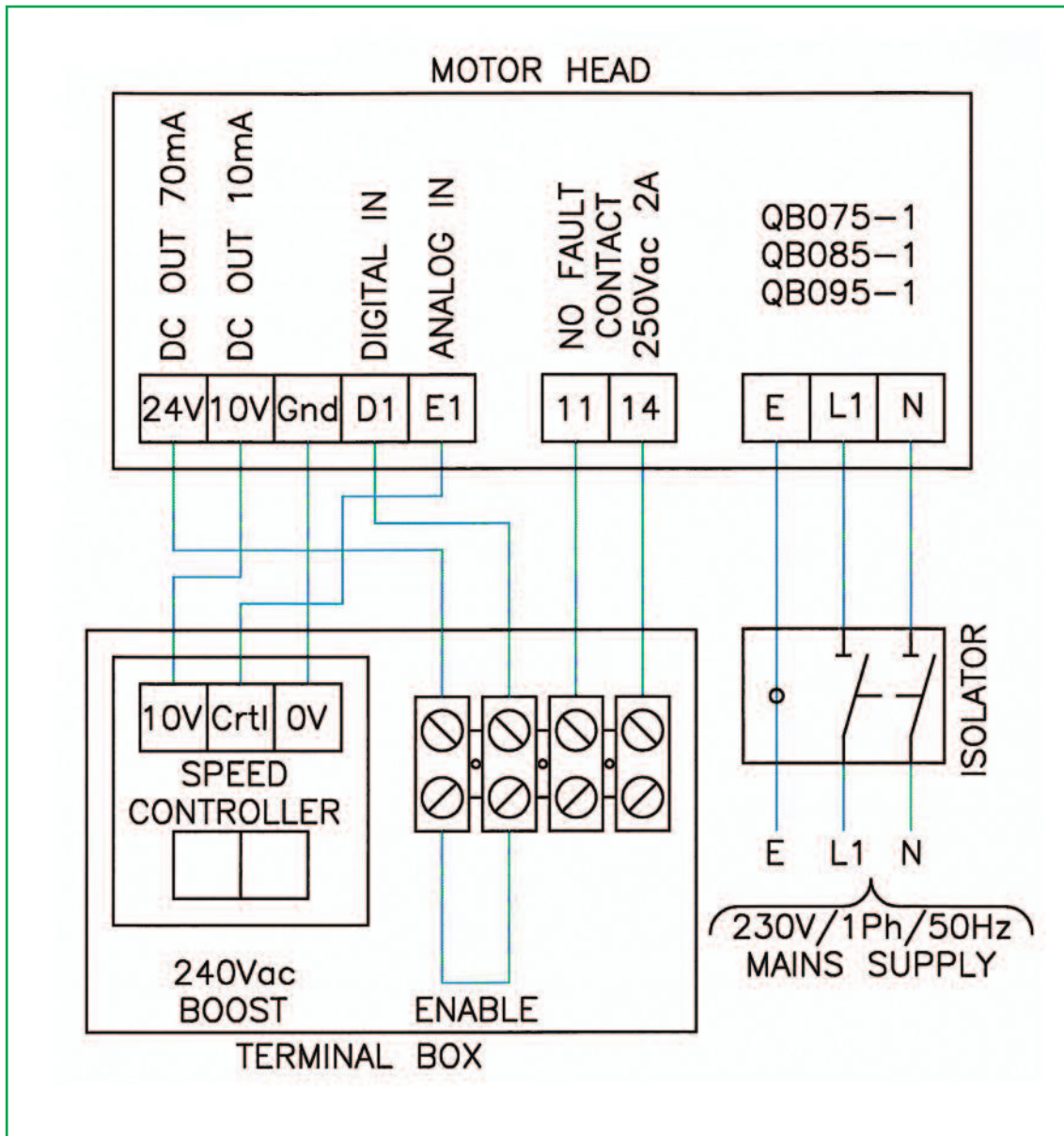
When the wiring is complete, check for free and correct rotation of the fan impeller.

#### Maintenance

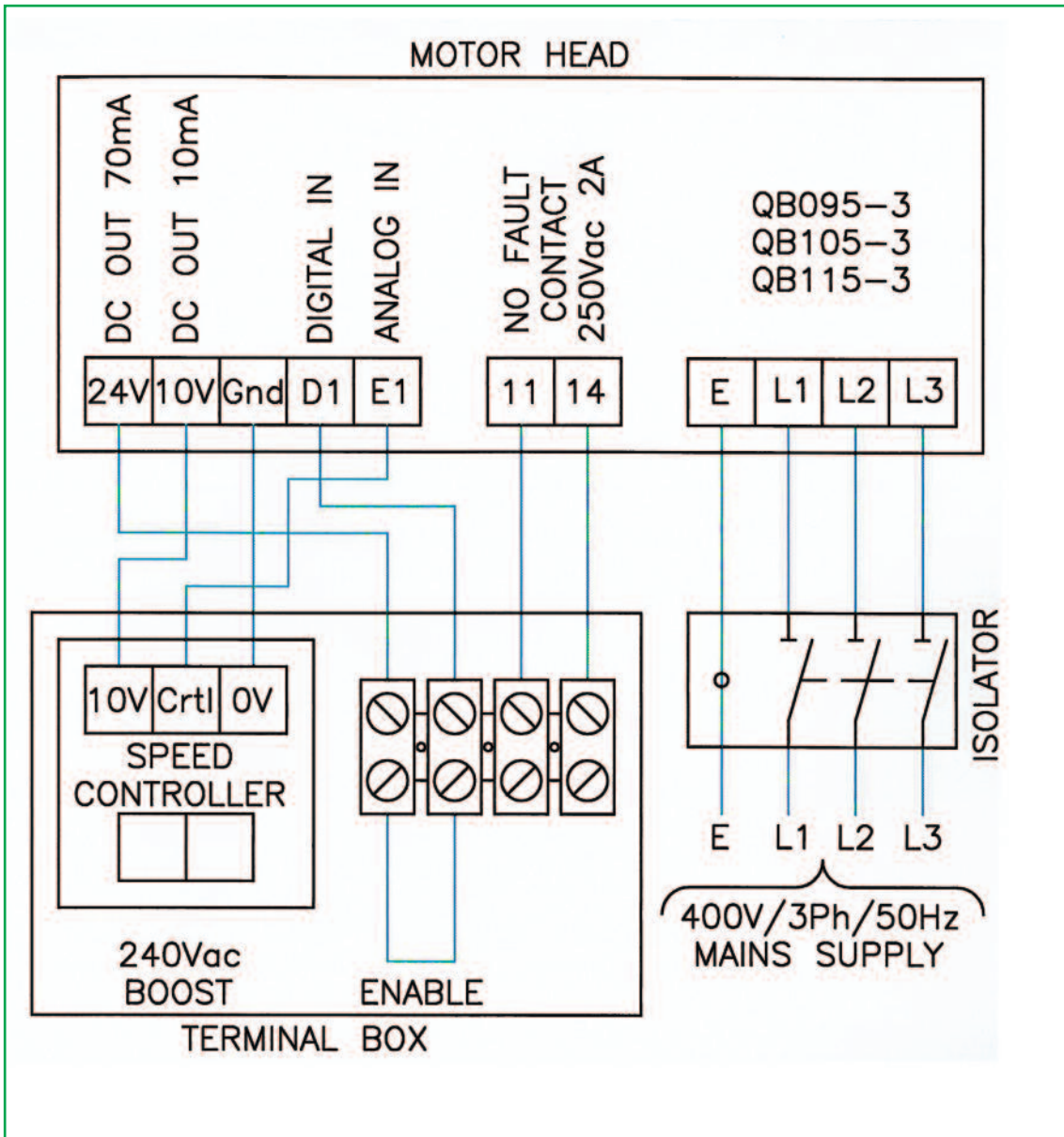
**6 Monthly:** The fan impeller should be carefully cleaned with a brush. This will prevent the impeller from becoming unduly dirty and unbalanced.

**12 Monthly:** The security and integrity of all fastenings should be checked, particularly the motor mounting frame.

#### Wiring Diagram - 1 Phase models

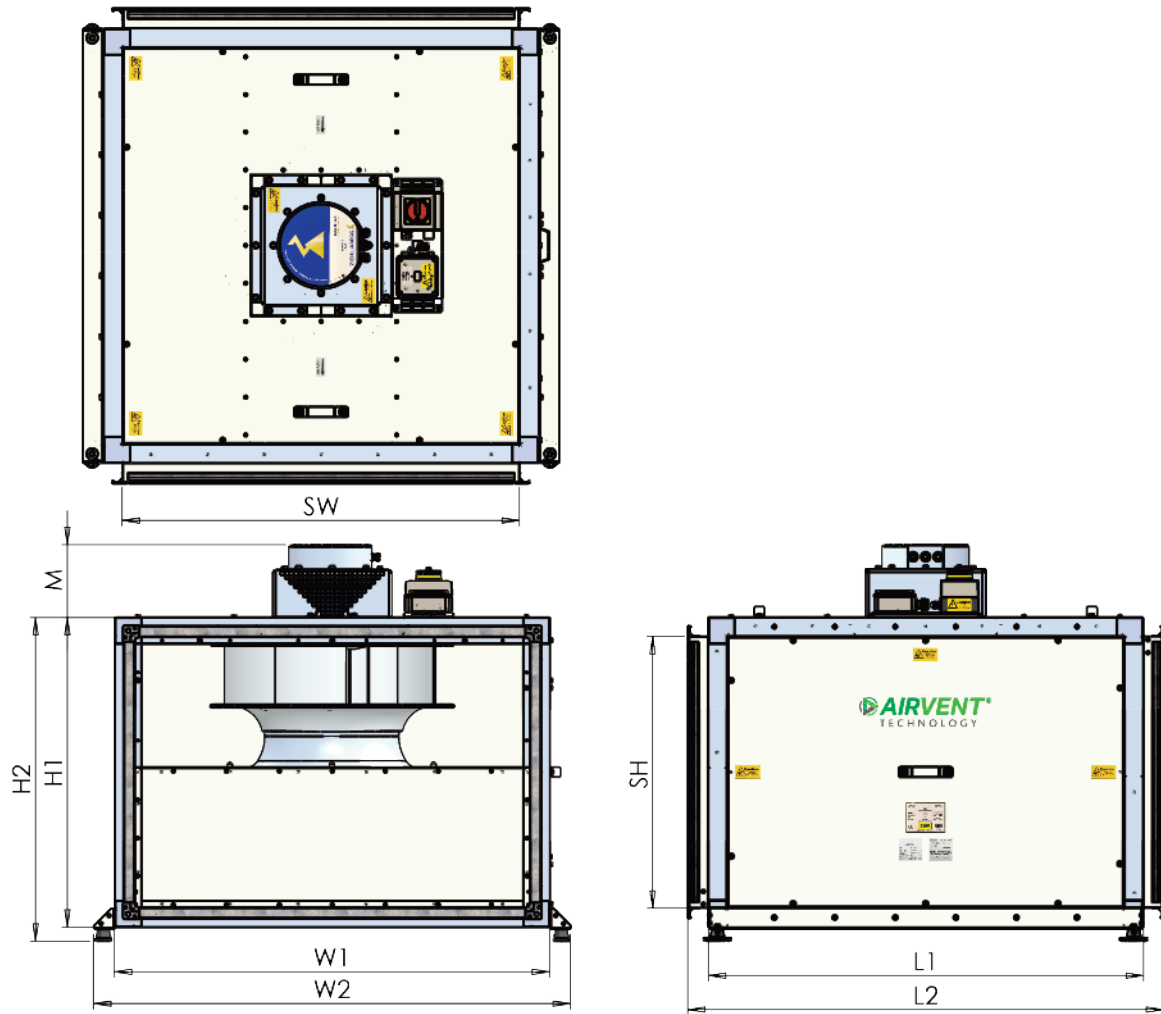


**Wiring Diagram - 3 Phase models**



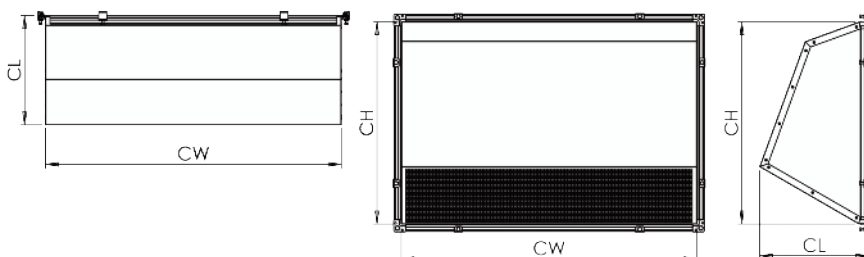
Model	Fan Power (kW)	Supply	FLC (Amps)
QBK350EC-1	0.37	230V 1 Ph	2.0
QBK400EC-1	0.70	230V 1 Ph	3.6
QBK450EC-1	1.28	230V 1 Ph	6.4
QBK450EC-3	1.20	415V 3Ph	2.0
QBK500EC-3	2.40	415V 3Ph	3.9
QBK560EC-3	3.60	415V 3Ph	5.8

**Base Unit Dimensions**



Model	H1	H2	L1	L2	M	SH	SW	W1	W2	Mass - kg
QBK350EC-1	577	614	750	858	134	477	650	750	860	78
QBK400EC-1	629	666	850	958	152	529	750	850	960	98
QBK450EC-1	686	723	950	1058	152	586	850	950	1060	117
QBK450EC-3	686	723	950	1058	152	586	850	950	1060	117
QBK500EC-3	754	791	1050	1158	192	654	950	1050	1160	149
QBK560EC-3	819	856	1150	1258	192	719	1050	1150	1260	167

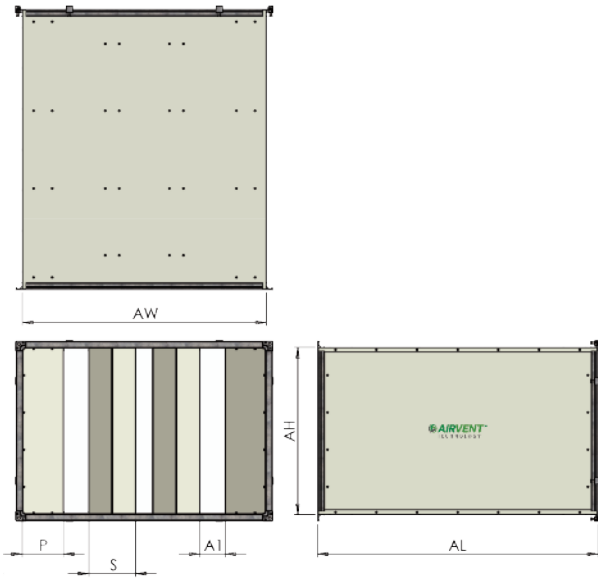
**Accessory Dimensions - Cowl**



**COWL DIMENSIONS**

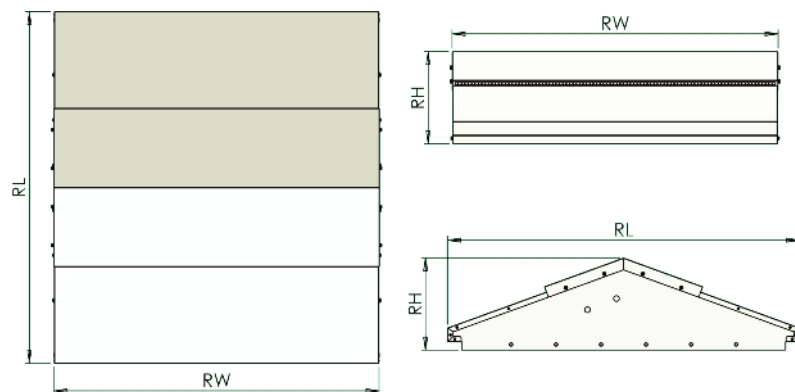
Unit	CH	CL	CW	Mass kg
QBK350EC-1	477	269	650	7
QBK400EC-1	529	295	750	8
QBK450EC-1	586	323	850	10
QBK450EC-3	586	323	850	10
QBK500EC-3	654	357	950	11
QBK560EC-3	719	389	1050	13

**Accessory Dimensions**



**ATTENUATOR DIMENSIONS**

Unit	AH	AL	AW	P	S	A1	Mass kg
QBK350EC-1	477	1208	650	75	100	75	52
QBK400EC-1	529	1208	750	125	100	100	61
QBK450EC-1	586	1208	850	125	150	75	75
QBK450EC-3	586	1208	850	125	150	75	75
QBK500EC-3	654	1208	950	175	150	100	84
QBK560EC-3	719	1208	1050	175	200	75	99



**ROOF DIMENSIONS**

Unit	RH	RL	RW	Mass kg
QBK350EC-1	255	851	757	10
QBK400EC-1	273	951	857	13
QBK450EC-1	292	1051	957	15
QBK450EC-3	292	1051	957	15
QBK500EC-3	310	1151	1057	19
QBK560EC-3	328	1251	1157	22

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