

EC-Fans

Operating & Maintenance

Languages translated from English | 206268 · A024



K/KV < 125W



Pacific Ventilation

EN

EU Declaration of Conformity

Manufacturer
Pacific Ventilation Pty Ltd
2/63 Wells Rd
Chelsea Heights VIC 3196
AUSTRALIA
AU: 1300 733 833
NZ: 0800 100 326

www.pacificventilation.com

hereby confirms that the following products including Sileo versions, comply with all applicable requirements in the following directives.

Duct fans with circular connection:

K 100-315L EC, KVK Slim 100-160 EC, KD 315-400 EC, prio 450-500 EC, KV DUO 150-630 EC

Duct fans with rectangular connection:

RS 30-15-100-50 EC, RSI 60-35-100-50 EC

Insulated duct fans with circular connection:

KVK Silent 100-160 EC

Roof fans with circular or square connection:

TFSR /TFSK 160-200 EC

Thermo fans:

KBT 160-250 EC

(The declaration applies only to product in the condition it was delivered in and installed in the facility in accordance with the included installation instructions. The insurance does not cover components that are added or actions carried out subsequently on the product)

Machinery Directive 2006/42/EC**Low Voltage Directive 2014/35/EU****EMC Directive 2014/30/EU****RoHS Directive 2011/65/EU**

(Residential units)

Ecodesign Directive 2009/125/EC

327/2011 Requirements for fans above 125W

1253/2014 Requirements for ventilation units above 30W

1254/2014 Requirements for energy labeling of residential ventilation units

The following harmonized standards are applied in applicable parts:**EN ISO 12100:2010**

Safety of machinery – General principles for design – Risk assessment and risk reduction

EN 13857

Safety of machinery – Safety distances to prevent hazard zones being reached by upper or lower limbs.

EN 60 335-1

Household and similar electrical appliances – Safety Part 1: General requirements.

EN 60 335-2-80

Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans.

EN 62233

Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure.

EN 50 106:2007

Safety of household and similar appliances – Particular rules for routine tests referring to appliances under the scope of EN 60 335-1 and EN 60967.

EN 60529

Degrees of protection provided by enclosure (IP Code).

EN 60 204-1

Safety of machinery – Electrical equipment of machines – Part 1: General requirements.

EN 60730-1

Automatic electrical controls for household and similar use - Part 1: General requirements.

EN 61000-6-2

Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments.

EN 61000-6-3

Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standards for residential, commercial and light-industrial environments.

Peter Gibson

Managing Director

Safety Information

This machinery must not be put into operation prior to reading mounting instructions and safety information.

All fans are intended for transportation of air in air handling systems. If installed in non-heated rooms, fan casing must be insulated in order to avoid condensation. They are designed to be used once built into machines or ducted to be used into machines or duct systems or after contact protection grid has been installed. (EN ISO 13857). Fans with duct connections must be connected to ducts on both sides (inlet/outlet). No moving parts shall be accessible after installation. The fans are not to be used in hazardous environments or connected to flue ducts. The fans must not be installed outdoors (except TFSR/TFSK EC, K EC). Safety accessories (i.e. safety grille) may not be dismantled, short cut or disconnected. Roof fans and KBT EC are exclusively intended for extract air applications.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Precautions must be taken to prevent the backflow of exhaust gases from flues from other appliances installed in the same room, which are fired by gas or other fuels.

The appliance must be connected to a mains circuit breaker in the fixed installation.

CAUTION!

- Before servicing or maintenance, switch off power, (all-pole circuit breaker), and make sure the impeller has come a standstill.
- The fans can have sharp edges and corners which may cause injuries.
- Be careful when opening the fans service-hatches (swing-out), the fan and motor assembled on the hatch is relatively heavy (applies to KVKE, KVO).

The fan motor has built in protection for locked rotor, which implies that the motor tries to restart with a preprogrammed interval whenever it senses that the rotor is standing still. When the blockage is removed the fan will start up by itself without any further measures. At high motor temperatures the current will be cut from the motor. It can then only be restarted by manually disconnecting the mains supply to the fan for couple of minutes.

Transportation and Storage

All fans are packaged at the factory to withstand normal transport handling. When handling the goods use suitable lifting equipment in order to avoid damage to fans and personnel. Do not lift the fans by the connecting cable, connection box, impeller or inlet cone. Avoid blows and shock loads. Store the fans in a dry place protected from weather and dirt until final installation. Permissible storage temperatures - 40...+80°C.

Installation

Refer to Safety information above. Installation, electrical connection and commissioning are only to be carried out by authorised personnel and in accordance with requirements and demands. Fans with EC-motors must be switched on/off via the control input.

Electrical connection according to the wiring diagram in the terminal box, markings on terminal blocks or on cable. Seal any empty cable glands with dummy plugs. The K-EC fan must be installed with the connection box at the top of the unit ± 90 degrees. If permanent installation is carried out using cables with diameter 12-14 mm, the electrical gland must be replaced (applies to type K-EC). Assemble the fan in the direction of airflow (see arrow on unit). The fan must be installed so that vibration is not transmitted via ducted systems or building structure. (Suitable accessories such as fast clamps and diffusers are available). Make sure the assembly of the fan is firm and stable. The fan can be mounted in any direction unless stated otherwise. The fans must be assembled so that service and maintenance can be performed easily and safely. Disturbing noise can be avoided by installing silencers (available accessory).

The fans are meant for continuous use within the temperature range stated.

For fans which reset by cutting the current, must be taken into consideration when connecting surrounding equipment with automatic on/off function.

EC motors have a leakage current to earth corresponding to $\leq 3,5$ mA. This needs to be considered whenever the fan is connected together with an earth fault breaker.

Integral potentiometer

The integral potentiometer is factory preset (Fig. 1-15). This value can be changed manually to obtain a different motor rpm/fan performance. Fan performance charts for this purpose are shown in the table by voltage steps on page 11-25 (Fig. 1-15) to the right of the pot. symbols. An external potentiometer can be connected if necessary. If so the internal potentiometer needs to be disconnected from the connection terminals.

Tach output

Terminal No. 1 in the wiring diagrams (white signal cable) enables connection of an rpm counter (one pulse per revolution), controller, alarm or a speed display. The Tacho a signal with max 10mA.

Operation

Before initial operation, check the following:

- Electrical connection has been properly completed.
- Protective conductor has been connected.
- Safety devices in place (protection grid)
- Leftover installation materials and foreign materials have been removed from the casing.

When putting into operation, check the following:

- Connection data corresponds to the specifications on the nameplate: Maximum voltage +6%, -10%, according to IEC 38. Rated current must not be exceeded with more than 5% at rated voltage.
- Smoothness of motor operation, (no abnormal noises).
- Fans must only be operated by a person who has suitable knowledge or education within

this field or carried out with the supervision of a suitably qualified person.

Maintenance, Service and Repair

Prior to maintenance, service or repair, make sure that:

- Power supply is interrupted (all-pole circuit breaker).
- Fan impeller has come to a complete standstill
- Observe personnel safety regulations!

The fan should be cleaned when necessary, at least 1/year to avoid imbalance and unnecessary damage to the bearings. A filter will further improve the time interval between cleaning of the fan. (It is sometimes recommended to install a filter guard). The fan bearings are maintenance free and should only be replaced if damaged. Do not use a high-pressure cleaner (steam jet) when cleaning the fan. Make sure the fan impeller's balance weights are not moved or the fan impeller distorted. Listen for abnormal operating noise.

The following applies in case the fan has stopped:

- Try to restart the fan by cutting the power a couple of minutes.
- Ensure that the impeller is not locked. Possible obstruction to be removed after the current has been switched off. Check that the fan starts after reconnecting the current. If the fan does not start, please contact your place of purchase.

Disposal and recycling

Residential products with this symbol at the nameplate are compliant to the WEEE directive. When disposing the unit, follow your local rules and regulations.

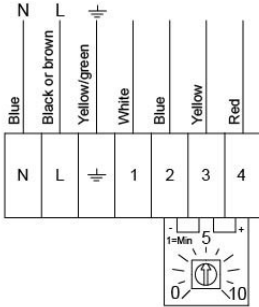
This product packing materials are recyclable and can be reused. Do not dispose in household waste.

For labelled components such as for example fans, the disassembly instructions can be found on the component manufacturer's homepage.

Wiring diagram

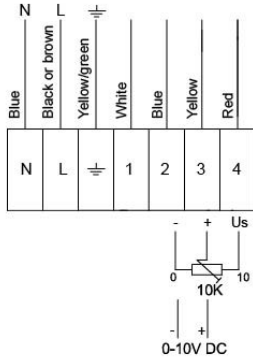
K EC, RS 30 EC, RS 40-25 EC

230V 1~

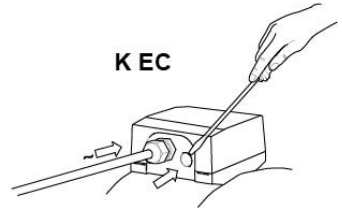


Internal potentiometer

230V 1~



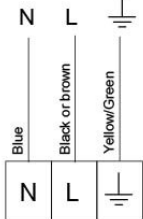
External potentiometer optional



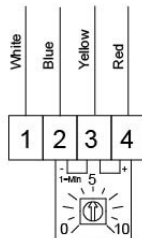
K EC

KVK Silent 125-160EC

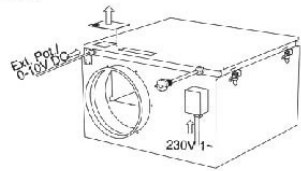
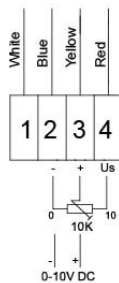
220V 1~



Internal potentiometer



External potentiometer



No.	No. Description
1	1 Tach output, Isink max 10mA
2	2 GND
3	3 Control input 0-10 VDC/PWM
4	4 Output 10 VDC max 1.1 mA

Performance

K EC

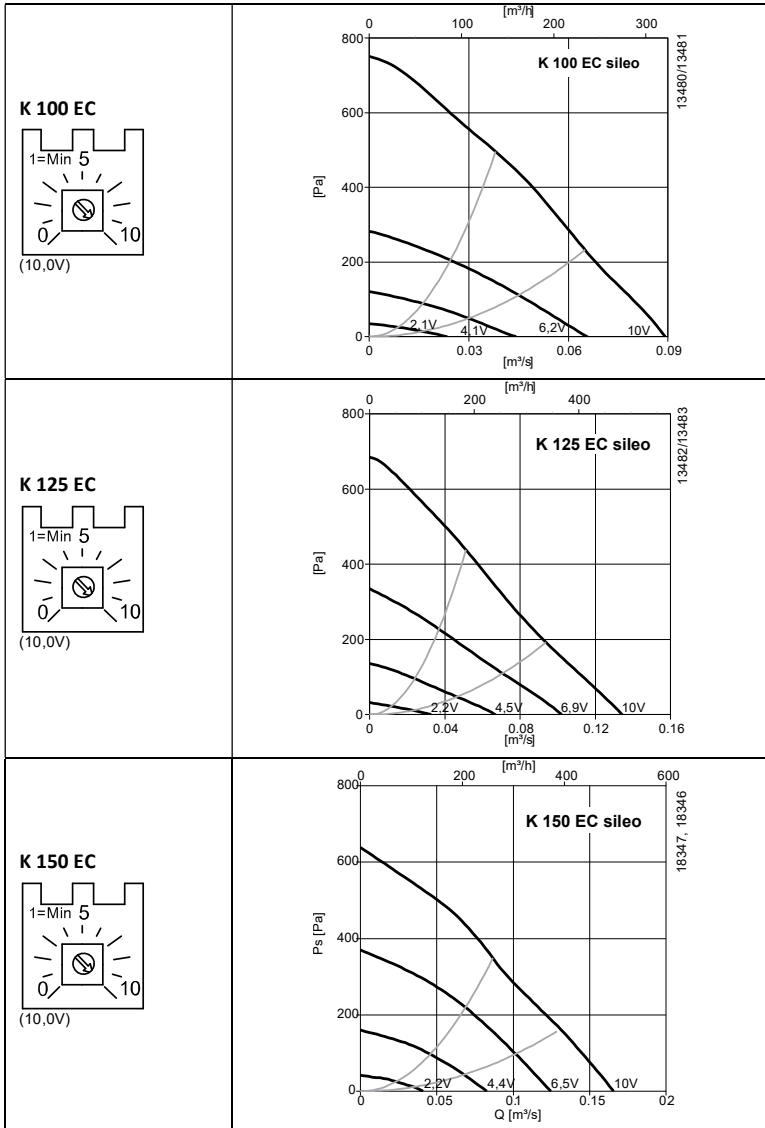


Fig 1

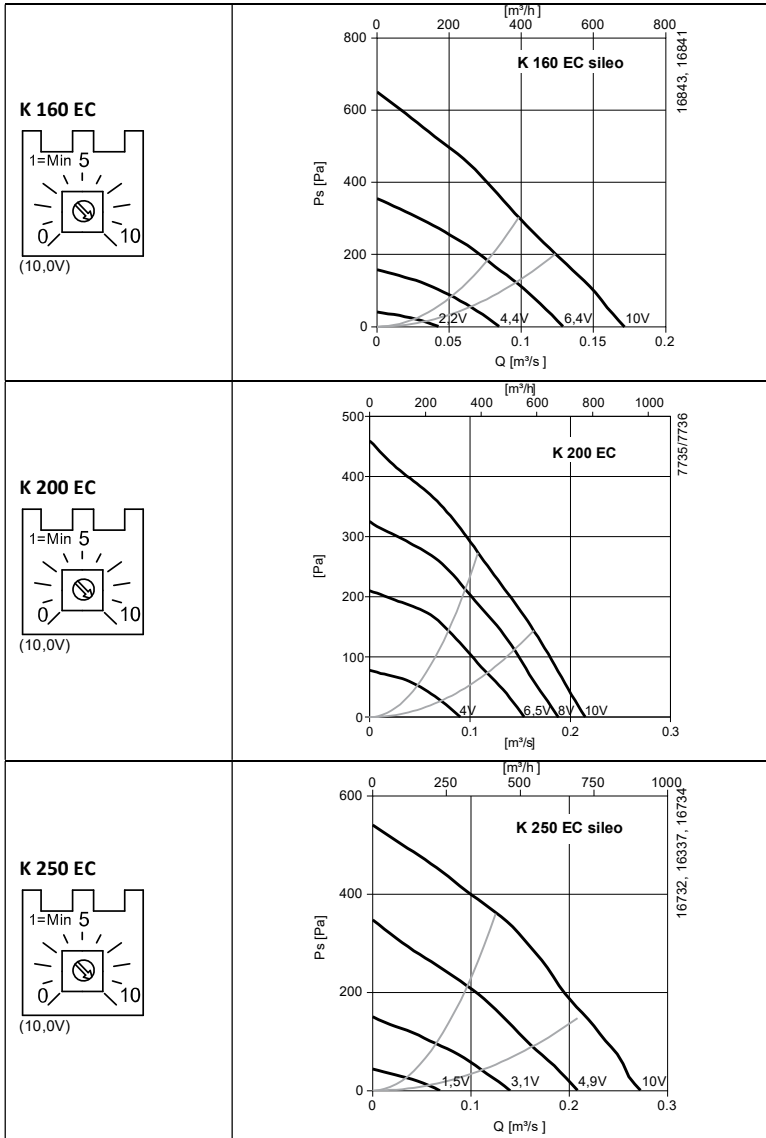


Fig 2

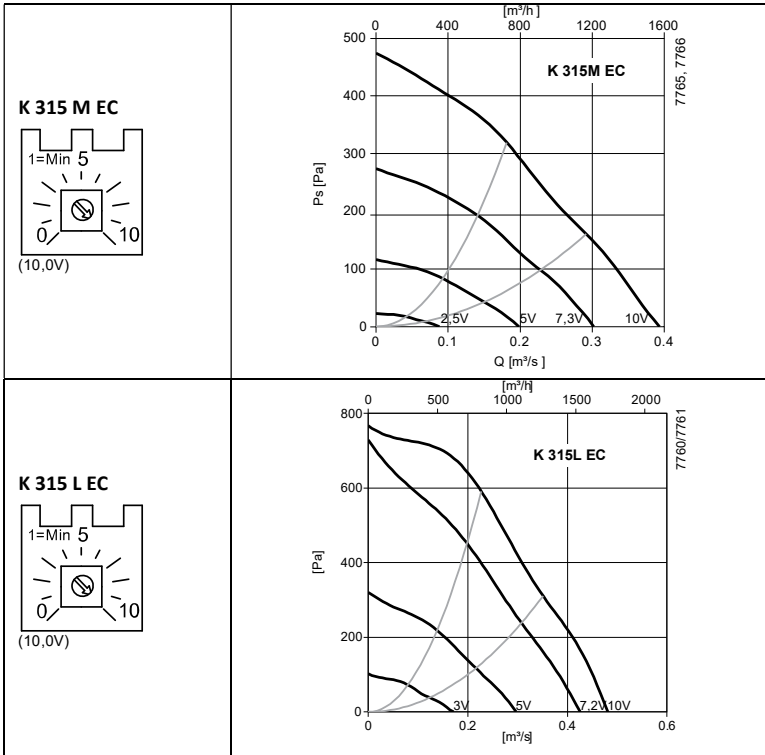


Fig 3

Mounting K-fan

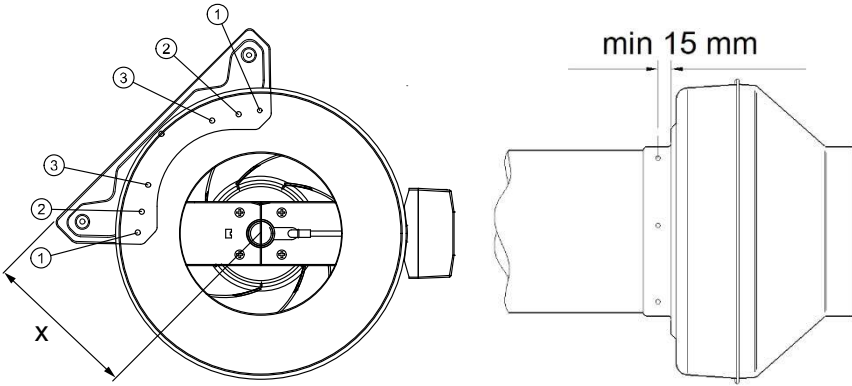


Fig 3

Type	Screw	X (mm)
K 100 EC	1	124,5
K 125 EC	1	124,5
K 150 EC	2	148,5
K 160 EC	2	148,5
K 200 EC	1 + 2	183,5
K 250 EC	1 + 2	183,5
K 315 M/K EC	1 + 2	222



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2/63 Wells Rd

Chelsea Heights VIC 3196

Australia

Email: info@pacificventilation.com

Phone: AU 1300 733 833 / NZ 0800 100 326