Duct fan
prio 315-400 AC/EC

Operation and Maintenance Instructions

GB

Document in original language | 269415 · A001

Pacific Ventilation

Contents

1 EU Declaration of conformity

Manufacturer

Pacific Ventilation Pty Ltd
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Chelsea Heights VIC 3196
Australia
www.pacificventilation.com

hereby confirms that the following products:

Duct fans prio 315-400 AC/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)

Comply with all applicable requirements in the following directives and regulations

Machinery Directive 2006/42/EC	**Ecodesign Directive 2009/125/EC** *327/2011 Requirements for fans*
Low Voltage Directive 2014/35/EU	
EMC Directive 2014/30/EU	

The following harmonized standards are applied in applicable parts:

EN ISO 12100	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 60204-1	Safety of machinery – Electrical equipment of machines – Part 1: General requirements.
EN 60335-1	Household and similar electrical appliances – Safety Part 1: General requirements.
EN 60335-2-80	Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans.
EN 50106	Safety of household and similar electrical appliances – Particular rules for routine tests referring to appliances under the scope of EN 60 335-1.
EN ISO 5801	Fans – Performance testing using standardized airways.
EN 13142	Ventilation for buildings – Components/products for residential ventilation – Required and optional performance characteristics.
EN 60529	Degrees of protection provided by enclosures (IP Code).
EN 62233	Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure.
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.

The complete technical documentation is available.

Skinnskatteberg, 2021-05-11

Stefan Lindberg
Technical Manager

Sofia Rask
Managing Director

2 Warnings

The following admonitions will be presented in the different sections of the document:

Danger

- Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.

Warning

- Indicates a potentially hazardous situation that may result in minor or moderate injuries.

Caution

- Indicates a risk of damaging the product or prevent optimal operation.

Important

- 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.

3 Product information

3.1 General

This manual concerns Duct fans prio 315-400 AC/EC manufactured by Pacific Ventilation Pty Ltd).

The EC-fans are delivered with potentiometer, 0–10 V. The integrated potentiometer is factory preset to 10 V. 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 (chapter 3.2.2). An external potentiometer or other controller can be connected if necessary. If so the internal potentiometer needs to be disconnected from the connection terminals.

This manual consists of basic information and recommendations concerning the design, installation, start-up and operation, to ensure a proper fail-free operation of the unit. The key to proper and safe operating of the unit is to read this manual thoroughly, use the unit according to given guidelines and follow all safety requirements.

The prio 315-400 AC/EC are intended for transportation of air in air handling systems. The fans are meant for use in ducted systems and should always be duct connected on the inlet side. No moving parts shall be accessible after installation. prio 315-400 AC/EC are adapted to continuous operation.

Danger

- The fans are not to be used in hazardous environments or connected to flue ducts.
- The appliance must be connected to a mains circuit breaker in the fixed installation.
- Switch power off (all-pole circuit breaker) before servicing or maintenance, and make sure the impeller has come to standstill.
- Make sure protection grid has been installed (EN ISO 13857), no moving parts shall be accessible after installation.
- Do not remove, short-circuit or disconnect safety accessories (i.e. motor protection, safety grille).

Warning

- The fans can have sharp edges and corners which may cause injuries. Be careful when opening the fans, the motor assembled on the motor bracket is relatively heavy.

Caution

- Take precautions to prevent the back flow of exhaust gases from flues from other appliances installed in the same room, which are fired by gas or other fuels.

3.2 Technical data

3.2.1 Dimension and weight

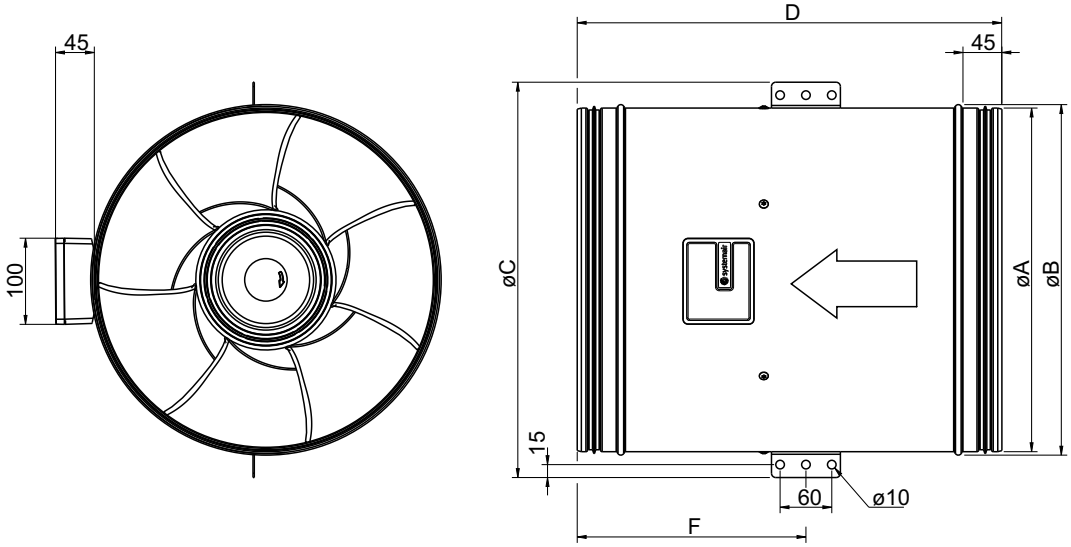


Fig. 1 Dimension prio 315 EC, prio 400 EC/AC

Model	øA	øB	øC	D	F	Weight, kg
prio 315 EC	314	322	375	407	205	10
prio 400 EC/AC	399	407	459	493	266	15,5

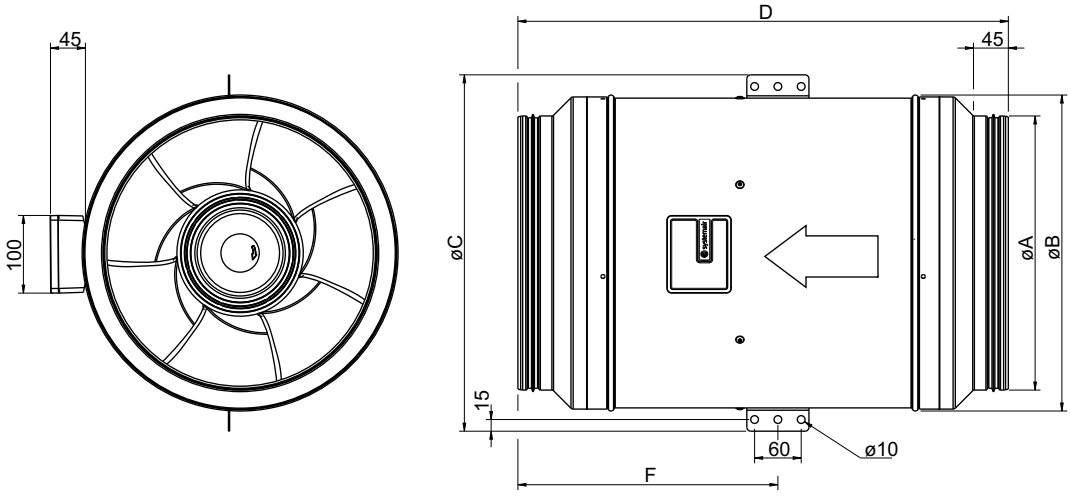


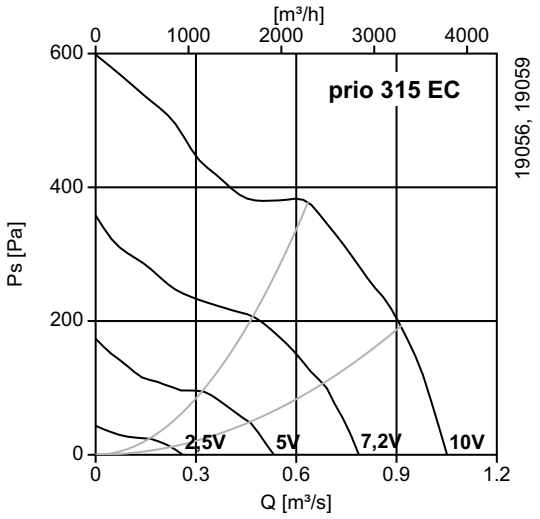
Fig. 2 Dimension prio 315 AC, prio 355 EC/AC

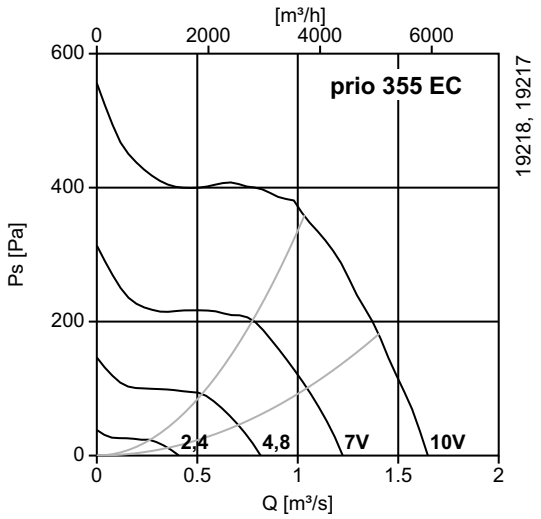
Model	øA	øB	øC	D	F	Weight, kg
prio 315 AC	313	407	459	676	357	15,5
prio 355 EC/AC	353	407	459	632	335	18,5

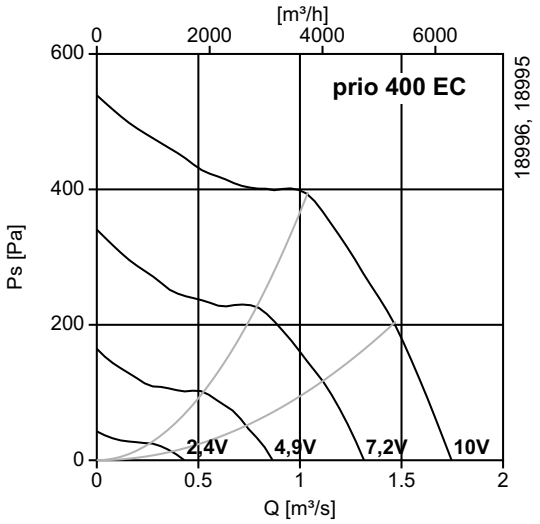
3.2.2 Performance

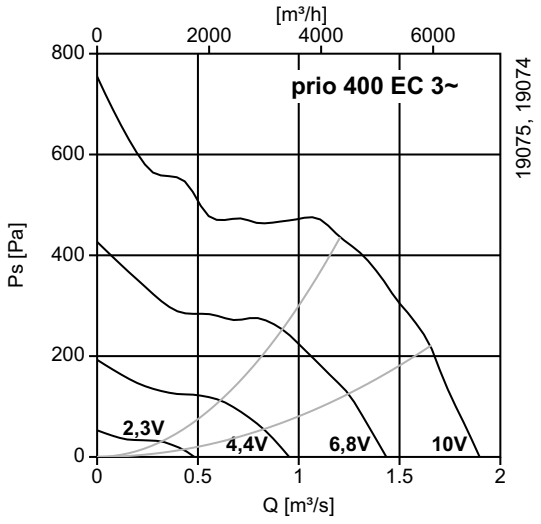
EC fans can be regulated with the enclosed potentiometer, the following diagrams show the performance on different fan curves.

Table 1 EC-fans









3.2.3 Wiring diagram

Modbus communication is possible for EC fans, see wiring diagram.

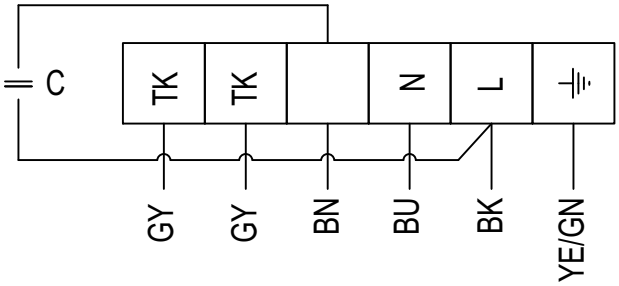


Fig. 3 prio 315–400

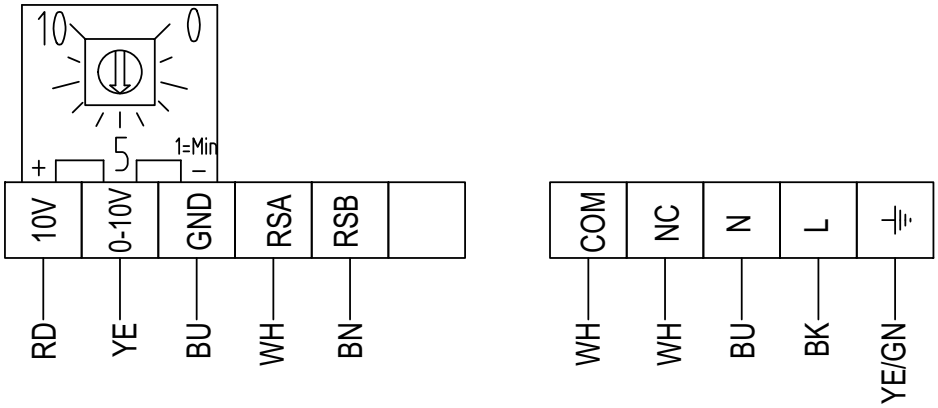


Fig. 4 prio 315–400 EC

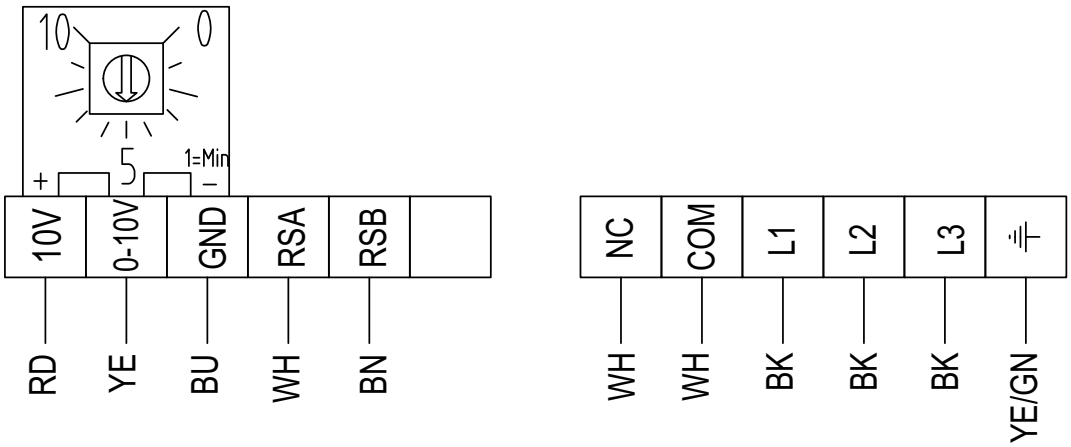


Fig. 5 prio 400 EC 3~

RD	Red
YE	Yellow
BU	Blue
WH	White

GN	Green
BN	Brown
BK	Black
GY	Gray

3.3 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. Avoid blows and shock loads. Store the fans in a dry place protected from weather and dirt until final installation.

Warning

- The unit is heavy. Be careful during transport and installation. Risk of injury through pinching. Use protective clothing.
- Do not lift the fans by the connecting cable, connection box, motor bracket, impeller or inlet cone.

4 Installation

Danger

- Make sure that the mains power supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical connections must be carried out by an authorized installer and in accordance with local rules and regulations.

Warning

- The units electrical connection to the mains power supply must be preceded by an all pole circuit breaker with a minimum 3 mm gap.
- Do not lift the fans by the connecting cable, connection box, motor bracket, impeller or inlet cone.

The fan can be installed in any direction, mounting brackets pre-mounted for easy installation. Arrow on the fan casing indicates the direction of the airflow. If damp air is transported in the duct, the fan must be installed with the connection box at the top of the unit ±90 degrees.

Make sure the assembly of the fan is firmly fixed and stable. The fans must be installed to ensure that service and maintenance can be performed easily and safely. Disturbing noise can be reduced by installing silencers (available as an accessory). Electrical connections are made according to the wiring diagram in the terminal box, markings on terminal blocks or on cable.

All 3 phase fans are delivered from factory in 400 V 3~ connection.

Note:

Cable glands are enclosed at delivery. If higher protection class is required, cable glands needs to be used when connection in the terminal box.

Fig. 6

4.1 Commissioning

Danger

- All electrical connections must be carried out by an authorized installer and in accordance with local rules and regulations.

Before initial operation, check the following:

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

Testing the installation:

- Adjustment may be required in the electrical compartment during test (i.e. changing of the potentiometer), however during operation the lid must be closed.

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.
- The direction of rotation should correspond to direction-of-rotation arrow (3 phase).
- Smoothness of motor operation, (no abnormal noises).

Sound levels exceeding 70 dB(A) may occur depending on size (see www.pacificventilation.com for detailed information).

5 Maintenance

5.1 Important

Danger

- Make sure that the mains power supply to the unit is disconnected before performing any maintenance or electrical work!
- Fan impeller has come to a complete standstill.
- Should the supply cable be damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard
- The unit is heavy. Be careful during transport and installation. Risk of injury through pinching. Use protective clothing.
- Do not lift the fans by the connecting cable, connection box, motor bracket, impeller or inlet cone.

5.2 Cleaning the fan

Warning

- Make sure that the mains power supply to the unit is disconnected before performing any maintenance or electrical work!
- Fan impeller has come to a complete standstill.

Caution

- Beware of sharp edges during maintenance, use protective gloves. Risk of injury through pinching.

The fan should be cleaned when necessary, at least once a year to avoid imbalance and unnecessary damage to the bearings. 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. Ensure that the fan impeller's balance weights are not moved or the fan impeller distorted. Listen for abnormal operating noise.

6 Troubleshooting

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. Disconnect the power supply, remove any obstacles. Check that the fan starts after reconnecting the current. Should the fan not start please contact your place of purchase.

7 Deinstallation/dismantling

Deinstall and dismantle the fan in reverse order of installation and electrical connection

8 Disposal

- ◆ Ensure material is recycled. Observe national regulations.
- ◆ The device and the transport packaging are predominantly made from recyclable raw materials.
- ◆ Disassemble the fan into its components.
- ◆ Separate the parts according to:
  - reusable material
  - material groups to be disposed of (metal, plastics, electrical parts, etc.)

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