

USER MANUAL

Wellington® ECF 2 Fan pack B-series

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General Safety

- Only install or maintain electric fan packs and fans if you are suitably qualified and trained.
- Wear suitable safety clothing and use appropriate equipment to avoid injury.
- Inspect the fan pack, housing, and other mechanical parts such as cables and connections for damage and defects before installation. Do not install the fan pack if it is damaged or if it has been dropped.
- Check electrical cables and connections for damage at regular intervals. Remove defective fan packs.
- Do not install cables in a way that will allow them to come into contact with a fan.
- As the fan pack does not contain any serviceable parts, please return, or responsibly dispose of damaged or malfunctioning fan packs.
- Take care to avoid injury from spinning fan blades. Avoid wearing loose clothing and jewelry. Use a hair net.
- Do not work on the machine while the fan is still spinning.
- Install a suitable guard over the fan to avoid accidental contact with spinning fan blades.
- As the fan pack can start automatically and unexpectedly when power is applied, do not assume that a non-rotating fan pack is not powered. Always check that power is disconnected before you work on the fan pack.
- After a period of operation, some fan pack surfaces may be hot. Ensure there is protection from accidental contact to avoid burn injuries.

Wires and cords

Ensure all wires and cords are routed and supported to reduce the risk of damage from:

- Sharp edges
- Surfaces and parts that operate at temperatures higher than the wire insulation's specified range
- Moving parts
- Fans, compressors, refrigerant lines, and similar parts that are likely to vibrate
- Clamps without smooth, rounded surfaces
- Metal parts contacting single insulated wiring.

Cleaning

- WARNING – Electrical shock or burn hazard. Unplug the unit or turn off the power supply before proceeding.
- DO NOT clean the fan pack with a pressure washer or hose.

Transport and Handling

- Storage – Store fan packs in clean, dry conditions.
- Fan pack handling – Take care to protect fan packs from damage caused by impact or dropping during transport.
- Disposal – Follow the regulations for disposal of electrical equipment in the country of use.

Proper use

The ECR fan pack range is designed to be used exclusively as fan packs in commercial refrigeration applications. This means:

- Fan packs must only be used in environments that are within the specified permitted temperature limits.
- Fan packs must only be used within the limits of their respective IP ratings.
- Fan packs should not be used in situations where they will be partially or wholly submerged in water.
- In order to maintain the fan pack IP rating (IP67) the fan pack connectors should be IP67-rated or the connectors appropriately located or protected so that they are not subject to moisture or humidity.
- ECF 2 should not be used in conjunction with transformer type voltage stabilizers with maximum boost ratio of 1.4 or higher in 230 Volt applications.

Schedule of Limitations for potentially explosive atmospheres

- This fan motor should be installed completely within an enclosure that provides a degree of protection in accordance with IEC/EN 60079-0.
- The equipment shall only be used in an area of at least pollution degree 2, as defined in EN 60664-1.
- Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.
- All connections provided are factory wiring only in the end-product and must be terminated in a suitable enclosure.
- This fan motor is suitable for service temperature range of -30°C to +109°C under ambient condition of -30°C to +50°C.
- Compliance with Design of Fans Working in Potentially Explosive Atmospheres, EN 14986:2017, has not been verified for the component as part of this report.
- The device must be protected from sources of UV light.
- These devices need to be fully shielded from impacts by an additional enclosure that complies with IEC 60079-0 impact test requirements.
- To minimize the risk of electrostatic charging, clean with a damp cloth only or touch with an insulating object.

Compliance Responsibility

- The responsibility for evaluating the suitability of the ECF 2 in any end product system, in accordance with all relevant regulations and standards, rests with the end product system manufacturer.

Introduction

This user manual covers the following Wellington fan pack models:

13W applications:

- ECF 2 7B-1 7-inch (172mm)
- ECF 2 8B-1 8-inch (200mm)
- ECF 2 9B-1 9-inch (230mm)
- ECF 2 AB-1 10-inch (250mm)

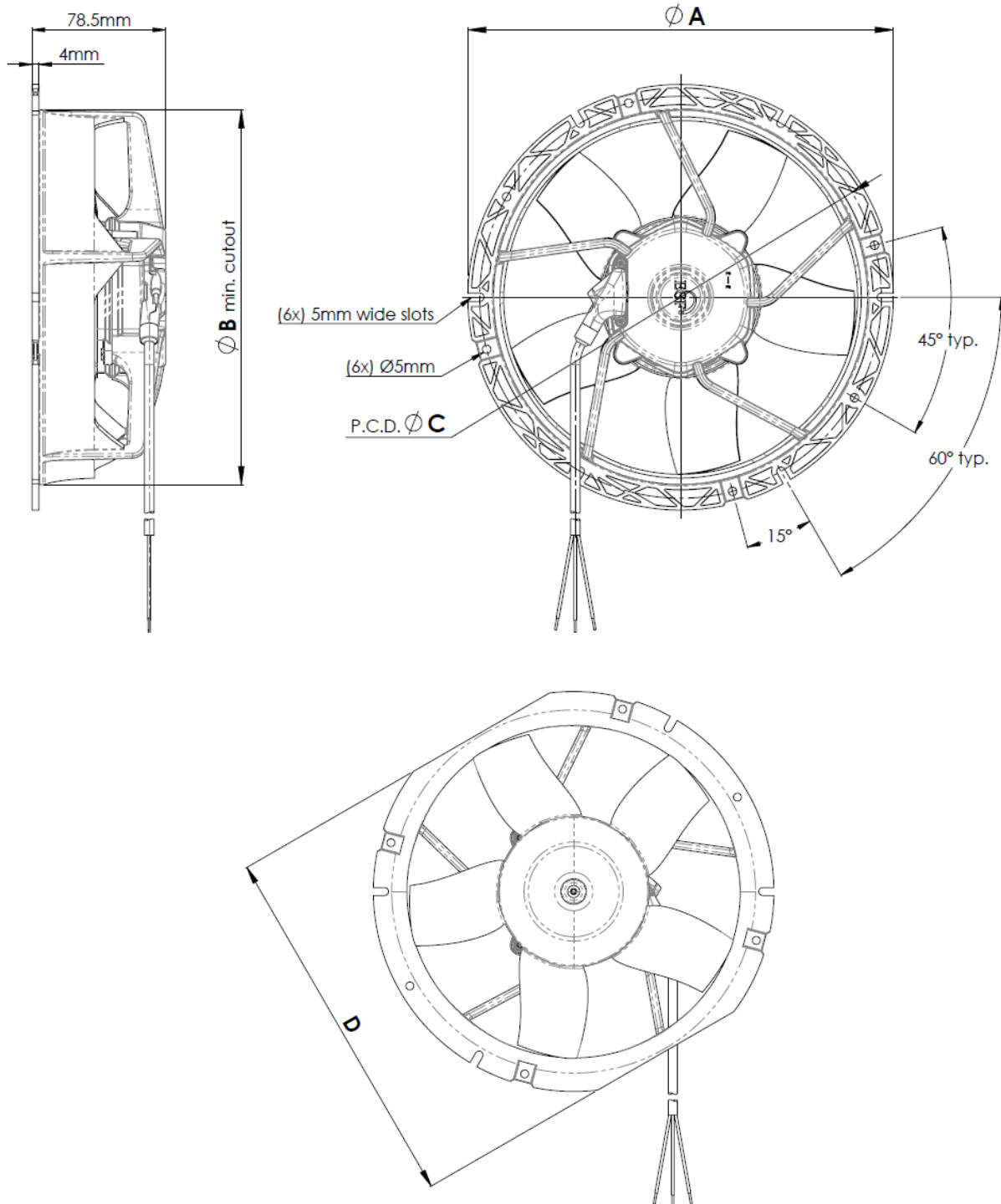
26W applications:

- ECF 2 7B-2 7-inch (172mm)
- ECF 2 8B-2 8-inch (200mm)
- ECF 2 9B-2 9-inch (230mm)
- ECF 2 AB-2 10-inch (250mm)



■ Dimensions – B-series fan pack

Variants	A	B	C	D
7" (172mm)	222mm	192mm	208mm	202mm
8" (200mm)	250mm	220mm	236mm	230mm
9" (230mm)	280mm	250mm	266mm	n/a
10" (250mm)	313mm	272mm	295mm	n/a



Installation guidelines

The following requirements shall be followed when installing the fan pack:

- Install the fan pack in a location where it is protected from impact and mechanical damage.
- Refer to the applicable drawing for the minimum plenum cut-out dimensions.
- Mount the fan assembly using the holes or slots provided around the perimeter of the shroud.
- Use an appropriate number of fasteners to ensure the assembly is securely mounted and free from vibration during normal operation.
- Route and secure all cables and wiring to prevent contact with moving components, including the fan blades.
- Install cabling in a manner that avoids excessive mechanical stress on the cable gland.

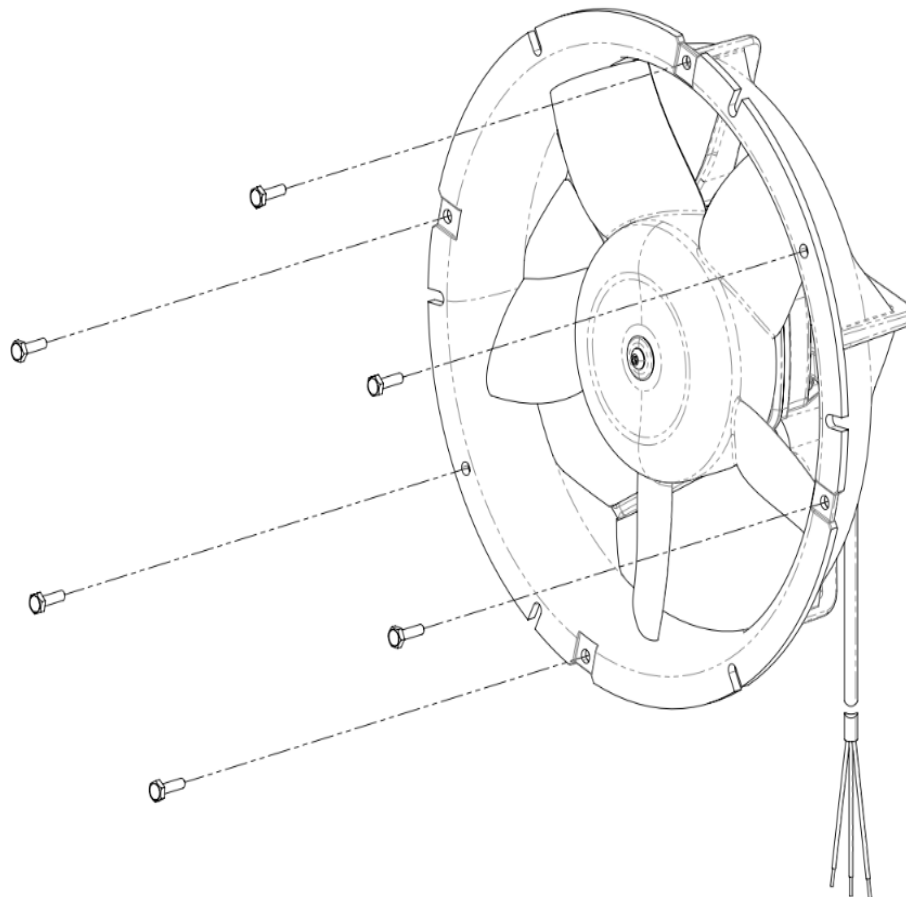
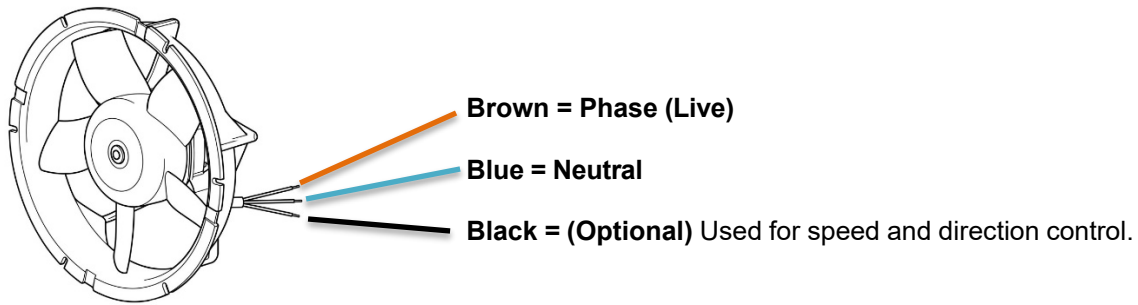


Figure 1. –Mounting

Electrical connections

To connect the fan pack to an electrical circuit, the conductors need to be connected in the following way:



Additional considerations

- Review the power supply cord and connector as part of your end-product assessment.
- Use IP67-rated connectors or install and protect connectors in a location where they will not be exposed to moisture or humidity. This helps maintain the fan pack's IP67 rating.
- If you install the fan pack in a potentially explosive environment, make all electrical connections and protective measures in accordance with the applicable ATEX or IECEx standards.

Pluggable power cable

If you remove the power cable, when reassembling ensure the:

- Torque for the connector screw is 0.5Nm.
- Grey rubber seal is in place between the plug and the motor to prevent water ingress.

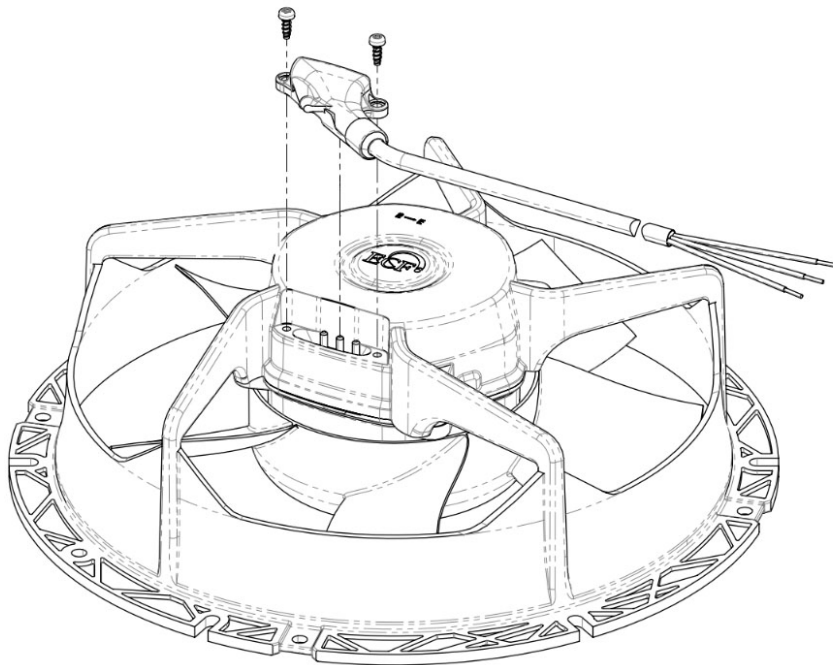


Figure 2. – Pluggable power cable with plug

Maintenance and cleaning

We recommend that you set up a regular maintenance schedule for your cooler as follows. At least every six months, check that:

- Cables are not showing breakage or wear
- Fan is not damaged and is fastened correctly
- Fan guard is still in place
- Fan pack is still securely mounted.

Cleaning

- When cleaning the fan pack, we recommend using a soft cloth and non-abrasive cleaning fluid to remove dirt, dust, and other matter from the exterior.
- Avoid using sharp objects and alkali, acid, and solvent-based fluids that may damage the device.
- Never open the device to clean inside.
- Never clean using high-pressure water blasting or jetting as this can damage sensitive components.

Fan pack repair

- The fan pack does not contain any user serviceable parts and cannot be repaired.
- The fan pack components are selected for the rated duty of the fan pack and are expected to last for the life of the product.
- If the fan pack no longer functions properly, follow the regulations for disposal of electrical equipment in the country where it is being used.

Service / Technical Support

- For servicing or technical support, please contact your local AoFrio Sales Office or find your nearest contact by visiting www.aofrio.com.

Troubleshooting

Problem	Possible cause	Action
Fan pack does not turn	No mains power	Check mains power supply.
	Faulty connection	Check all power cable connections.
	Reverse function timed out	Allow fan pack to reset to CCW mode.
	Thermal protection activated	Allow fan pack to cool down and Thermal Protector to reset.
Fan pack fails to start after multiple attempts or stops and starts often.	There is an obstruction in the fan or the fan has failed	Remove obstructions or replace fan pack.
Fan pack spins in wrong or opposite direction	Black control wire not connected properly	Check the connection of the black control wire connection.

Specifications

General	
Nominal voltage	100-240V, 50-60Hz
Environment	
Operating Temperature Range at Max load	-30 to +50°C, -22 to +122°F
Storage Temperature Range	-40 to +80°C, -40 to +176°F

The Wellington ECF 2 fan pack is suitable for humid and damp environments, but this does not include situations where the assembly is partially or wholly submerged.

Exposure to the following substances may jeopardize the IP and ATEX compliance rating of the fan assembly:

- Acids
- Ketones
- Aldehydes
- Solvents
- Esters
- Mineral oils



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