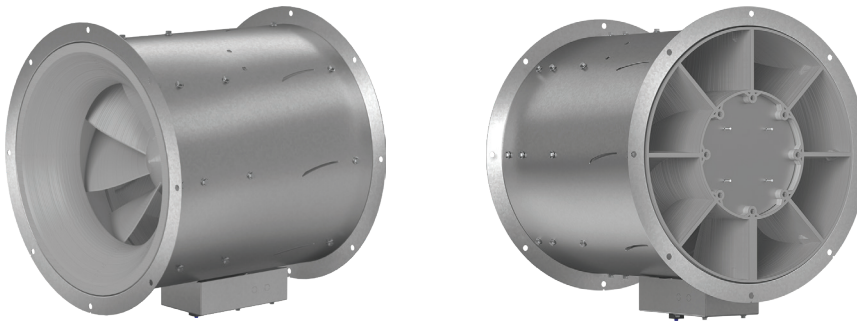


## Installation, Operation and Maintenance Manual

Please read and save these instructions for future reference. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with these instructions will result in voiding of the product warranty and may result in personal injury and/or property damage.



### General Safety Information

Only qualified personnel should install this fan. Personnel should have a clear understanding of these instructions and should be aware of general safety precautions. Improper installation can result in electric shock, possible injury due to coming in contact with moving parts, as well as other potential hazards. Other considerations may be required if high winds or seismic activity are present. If more information is needed, contact a licensed professional engineer before moving forward.

1. Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the National Fire Protection Agency (NFPA), where applicable. Follow the Canadian Electrical Code (CEC) in Canada.
2. The rotation of the wheel is critical. It must be free to rotate without striking or rubbing any stationary objects.
3. Motor must be securely and adequately grounded.
4. Do not spin fan wheel faster than max cataloged fan rpm. Adjustments to fan speed significantly effects motor load.
5. Do not allow the power cable to kink or come in contact with oil, grease, hot surfaces or chemicals. Replace cord immediately if damaged.
6. Verify that the power source is compatible with the equipment.
7. Never open access doors to a duct while the fan is running.

#### DANGER

Always disconnect, lock and tag power source before installing or servicing. Failure to disconnect power source can result in fire, shock or serious injury.

#### CAUTION

When servicing the fan, motor may be hot enough to cause pain or injury. Allow motor to cool before servicing.

#### CAUTION

Precaution should be taken in explosive atmospheres.

#### DANGER

Pour écarter les risques d'incendie, de choc électrique ou de blessure grave, veiller à toujours débrancher, verrouiller et étiqueter la source de courant avant l'installation ou l'entretien.

#### ATTENTION

Lors de toute intervention sur la soufflante, le moteur peut être suffisamment chaud pour provoquer une douleur voire une blessure. Laisser le moteur refroidir avant toute maintenance.

#### ATTENTION

Faire preuve de précaution dans les atmosphères explosives.

## Receiving

Upon receiving the product check to make sure all items are accounted for by referencing the delivery receipt or packing list. Inspect each crate or carton for shipping damage before accepting delivery. Alert the carrier of any damage detected. The customer will make a notation of damage (or shortage of items) on the delivery receipt and all copies of the bill of lading which is countersigned by the delivering carrier. If damaged, immediately contact your local sales representatives. Any physical damage to the unit after acceptance is not the responsibility of manufacturer.

## Unpacking

Verify that all required parts and the correct quantity of each item have been received. If any items are missing, report shortages to your local representative to arrange for obtaining missing parts. Sometimes it is not possible that all items for the unit be shipped together due to availability of transportation and truck space. Confirmation of shipment(s) must be limited to only items on the bill of lading.

## Handling

Handle the fan in such a manner as to keep from scratching or chipping the coating. Damaged finish may reduce the ability of the fan to resist corrosion.

Fans should be lifted by the fan housing.

## Storage

Fans are protected against damage during shipment. If the unit cannot be installed and operated immediately, precautions need to be taken to prevent deterioration of the unit during storage. The user assumes responsibility of the fan and accessories while in storage. The manufacturer will not be responsible for damage during storage. The following suggestions are provided solely as a convenience to the user.

The ideal environment for the storage of fans is indoors, above grade, in a low humidity atmosphere which is sealed to prevent the entry of blowing dust, rain, or snow. Temperatures should be evenly maintained between 30°F (-1°C) and 110°F (43°C) (wide temperature swings may cause condensation and “sweating” of metal parts).

Remove any accumulations of dirt, water, ice or snow and wipe dry before moving to indoor storage. To avoid “sweating” of metal parts allow cold parts to reach room temperature. To dry parts and packages use a portable electric heater to get rid of any moisture build up.

The unit should be stored at least 3-1/2 inches (89 mm) off the floor on wooden blocks covered with moisture proof paper or polyethylene sheathing. Leave coverings loose to permit air circulation and to allow for periodic inspection. Aisles between parts and along all walls should be provided to permit air circulation and space for inspection.

## Inspection & Maintenance During Storage

While in storage, inspect fans once per month. Keep a record of inspection and maintenance performed.

If moisture or dirt accumulations are found on parts, the source should be located and eliminated. At each inspection, rotate the wheel by hand ten to fifteen revolutions to distribute lubricant on motor.

## REMOVING FROM STORAGE

As fans are removed from storage to be installed in their final location, they should be protected and maintained in a similar fashion, until the fan equipment goes into operation.

## QEID FJ Installation

The QEID FJ is designed to be flanged mounted to duct in either a vertical with wheel down (upblast) or horizontal configuration. Pre-punched holes are provided in the flanges. The speed control dial may be mounted in any orientation.

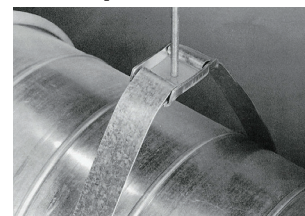
If additional support is desired, the following additional methods of support can be used. All additional items for alternative methods of support are provided by others. Follow the manufacturer’s recommended installation procedures.

## Pre Start-Up Checks

1. Before starting up or operating fan, check all fasteners for tightness. Remove dirt and debris that may have accumulated.
2. While in the OFF position or before connecting the fan to power, turn the fan wheel by hand to be sure it is not striking the venturi or any obstacle.
3. When the fan is started, observe the operation and check for any unusual noises.

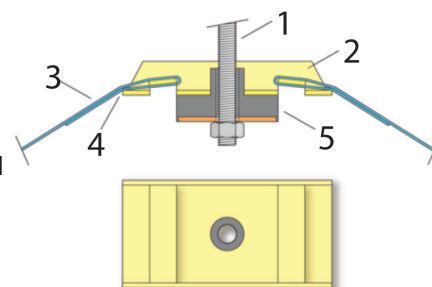
## Duct Hanger Bracket and Strap

Below are our suggestions for mounting the fan using a duct hanger bracket and strap. This can be with or without isolation.



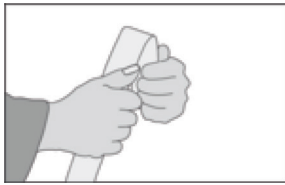
### Duct Hanger

1. Threaded rod
2. Sturdy bracket made of galvanized steel
3. Galvanized coiled strip or strips cut from waste material may be used. If hanger

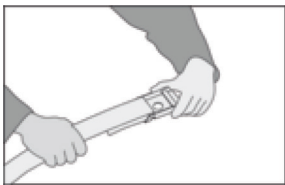


- is installed prior to fan duct connection, the installed strap length should account for unit flanges passing through and clearance to access duct hanger.
4. Self-locking concept securing the metal strip.
5. Rubber Isolator with molded-on washer (optional).

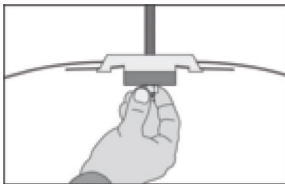
## Installation Instructions



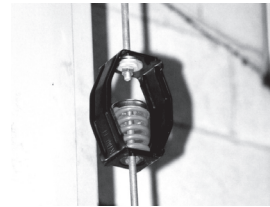
**Fig. 1 Both ends of the strip are bent over 8-10 cm. Protect your hands with gloves.**



**Fig. 2 Hook the ends through the slots in the bracket.**



**Fig. 3 Hang on threaded rod or ceiling bracket.**



### Additional Spring Hanging Isolator

If a hanging spring isolator such as a Kinetics SH is needed, a section of the hanging rod, as illustrated in the section above, can be replaced with the spring isolator housing. Follow the manufacturer's recommended installation procedures.

## Electrical and Controls Connections

### NOTE

Verify blower motor voltage matches line voltage 110-120V 50/60 Hz, 208-230/277V 50/60 Hz.

### Vari-Green® Motor

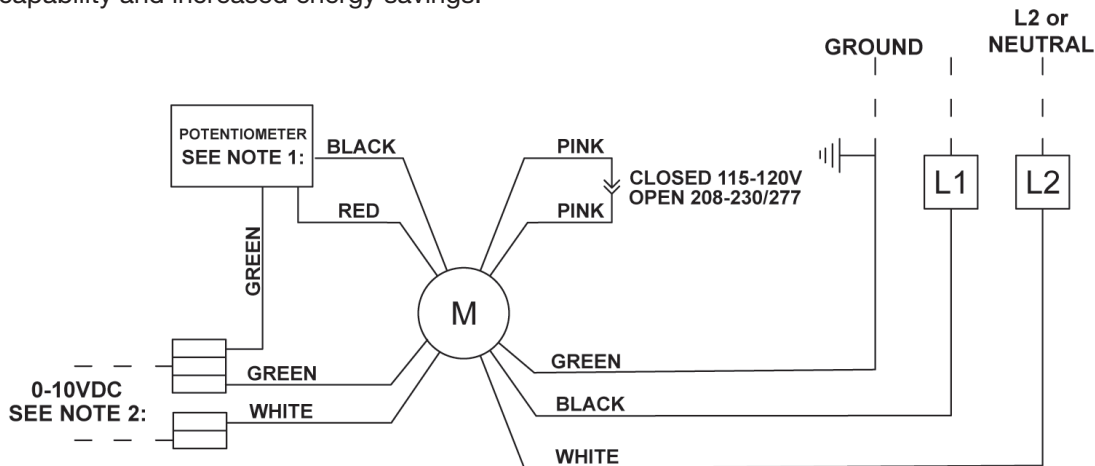
The QEID FJ utilizes a Vari-Green® motor. The Vari-Green motor is an electronically commutated (EC) motor that uses AC input power and internally converts it to a DC power supply which provides an 80% turndown capability and increased energy savings.

### Soft start

All motors feature soft-start technology which eliminates inrush current at start-up. The motors will reliably start at any speed setting.

### Overload protection

If the motor becomes overloaded, it will automatically reduce its speed until it is no longer overloaded. This means that the motor will never operate in the "service factor" which is possible with many AC motors.



Note 1 The speed control dial is located on junction box. Turn dial for speed adjustments to motor.

Note 2 0-10 VDC fan motor control by others for 0-10 input, speed control dial must be set to 0.

- 0-1.9 VDC fan motors are off
- 2 VDC - minimum speed
  - ON threshold (from previous OFF) - 2 VDC
  - OFF threshold (from previous ON) - 1.5 VDC
- 10 VDC - Maximum speed

## Tri-Voltage: 115V or 208-230/277V

The tri-voltage feature allows the motor to operate at 115/208-230/277V. The operating voltage is selected via the voltage jumper wire.

When the jumper wire is **connected**, the motor operates at 115V, see Fig 4.

When the jumper wire is **disconnected and capped**, the motor operates at 208-230/277V, see Fig. 5.

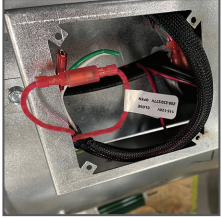


Fig. 4  
115V Operation

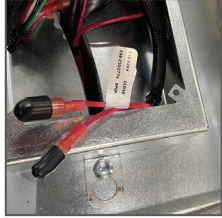


Fig. 5  
208-230/277V Operation

## Speed Control Dial

The speed control dial is mounted on the power pack bracket and is to be plugged into the 9-pin connector on the motor. To increase speed, rotate the dial clockwise. To decrease speed, rotate the dial counterclockwise. From 0-1.9V the motor will be off and will operate in the 2-10V range.

## Maintenance

QEID FJ motor uses sealed bearings. No lubrication is required. This fan is not designed to be disassembled. Consult the factory with issues.

## Troubleshooting

### Motor does not operate.

1. Check all wiring connections to ensure they are correct and secure.
2. Verify that all voltages are present at the motor, including 0-10 VDC, if applicable.
3. Make sure that the fan wheel will rotate freely and there are no foreign objects in the wheel. If fan wheel does not rotate freely, contact factory.
4. If motor has both the dial on the motor and 0-10 VDC control option, control wiring issues can be tested by disconnecting the control wires from the motor. The motor should then operate using the dial on the motor for speed control.

### Motor will not reach maximum speed.

1. Make sure dial is rotated full clockwise, if applicable.
2. Make sure motor is receiving 10 VDC, if applicable.

## Our Commitment

*As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.*

Product warranties can be found online at [Greenheck.com](http://Greenheck.com), either on the specific product page or in the literature section of the website at [Greenheck.com/Resources/Library/Literature](http://Greenheck.com/Resources/Library/Literature).

Greenheck models QE1 and QEID catalog provides additional information describing the equipment and available accessories.

AMCA Publication 410-96, Safety Practices for Users and Installers of Industrial and Commercial Fans, provides additional safety information. This publication can be obtained from AMCA International, Inc. at [www.amca.org](http://www.amca.org).

