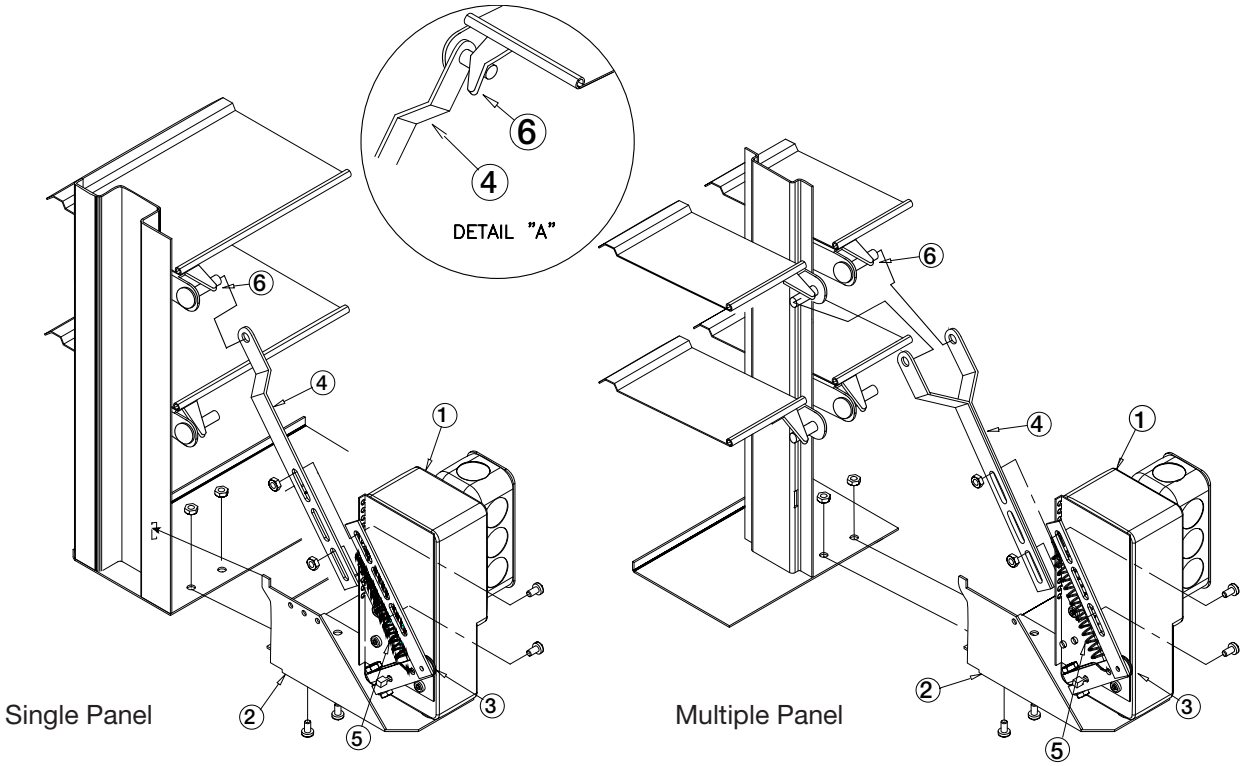
GREENHECK
Building Value in Air.

Document 463547
MP-310 Motor Pack
Electric actuators with spring return for use with WD-300 series dampers

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.



Single Panel

Multiple Panel

Motor Pack Contents

1. Actuator
2. Actuator Bracket
3. Actuator Arm Assembly
4. Connecting Links
5. Actuator Spring

All necessary hardware included

Electrical Guidelines

All wiring shall be done in accordance with the National Electrical Code ANSI/NFPA-70 latest edition, any local codes that may apply, and wiring diagrams developed in compliance with the job or project design and specifications.

Attention

Electrical input may be needed for this equipment. This work should be performed by a qualified electrician. Verify power before wiring actuator. Greenheck is not responsible for any damage to, or failure of the unit caused by incorrect field wiring. To avoid causing death or serious bodily harm to building occupants, follow all instructions carefully. Dampers must close completely to preserve the integrity of the fire smoke separation.

Installation Instructions

1. The MP-310 motor pack is designed for installation on model WD-300 series backdraft dampers only.
2. For single panel damper, insert tab of motor bracket into the slot on the side of the frame. For dampers with center bars, the tab of the motor bracket should be inserted into the slot on the bottom of the center bearing rail. Position bracket over the two holes on the bottom of the frame and secure with the hardware provided.
3. Position the connecting link(s) on the second blade pivot from the bottom of the damper. Slip the connecting link over the bushing and, with a needle nose pliers, bend the tab over to the position shown in Detail 'A'. This will hold the connecting link in place on the pivot.
4. Connect the actuator arm assembly to the connecting link using the provided hardware.
5. To adjust the actuator linkage assembly, pull back on the actuator arm assembly until a slight amount of tension has been applied to the actuator spring. Tighten the fasteners between the connecting link and actuator arm assembly. Fasteners should be placed as far apart as possible. This will provide greater stability to the linkage. Operate the damper manually. Verify that the linkage fasteners do not interfere with any components of the assembly and that the damper blades close completely when released. To increase spring tension raise the spring up on the bracket. To decrease the spring tension lower the spring.
6. Actuators are supplied with junction box and cover. When wiring, make sure the supply voltage agrees with the actuator voltage. On dual voltages motor packs, be sure to connect the proper motor leads for the correct voltage and insulate any unused wire. The voltage of each specific model is indicated on a label that is affixed to the actuator (see typical wiring diagrams).
7. Applications where airflow could be uneven, such as a discharge fan, it is imperative to verify that at no point the maximum velocity exceeds the damper cataloged velocity.
8. If the damper fails to open properly, check for one of the following causes:
   - Check for an 'out of square' or racked damper
   - Check for mounting screws interfering with the blade and linkage rotation
   - Spring tension too great
   - Excessive voltage drop
   - Excessive negative pressure in the building

If actuator fails to function:
- Check for correct voltage
- Check for proper wiring

Motor Pack Quantity

More than one motor pack may be required depending on damper size:
- On single panel dampers, the actuator is installed as shown on page 1 in the single panel view
- On double or triple panel dampers, the actuator(s) is installed as shown on page 1 in the multiple panel view.

Actuator Specifications

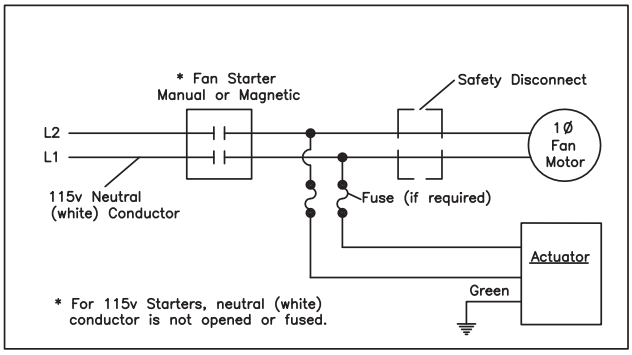
MP-310 motor pack uses a single phase shaded pole stall type impedance protected electric actuators and are supplied in various voltages (see chart). For 277, 380, 575, or 600 volt operation a transformer and 120V motor pack is required.

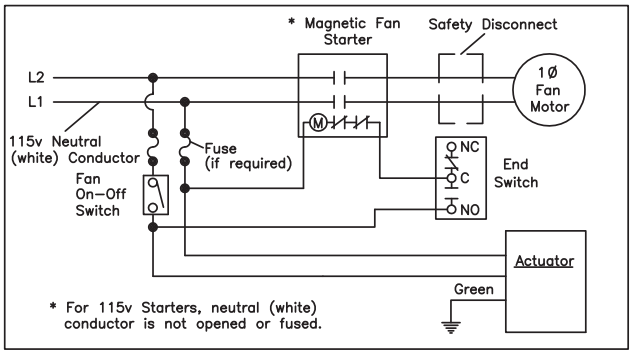
Motor Packs	Stall Amps	Spec ID#
24V (50/60 Hz)	.66	G24
110 - 120V (50/60 Hz)	.15	G110-240
208 - 240V (50/60 Hz)	.07	G110-240
460V (60 Hz)	.041	G460

Typical Wiring Diagrams

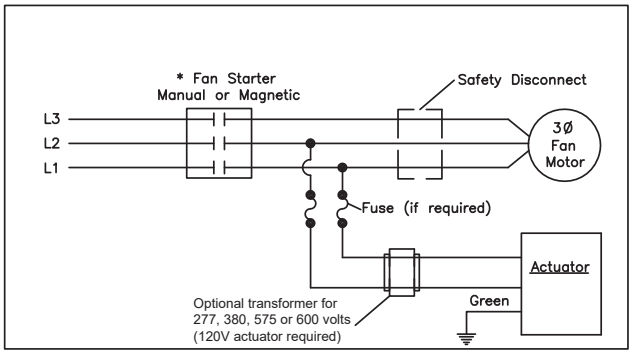
Wiring diagrams are shown for motor packs and dampers installed with power ventilator fan equipment with single speed motor. The damper will open when the fan is on and close when the fan is off. For connection to two-speed fan motors or for other control sequences consult the factory. The wiring diagrams shown with end switches are for applications where it is desirable to have the damper fully open before fan start-up.

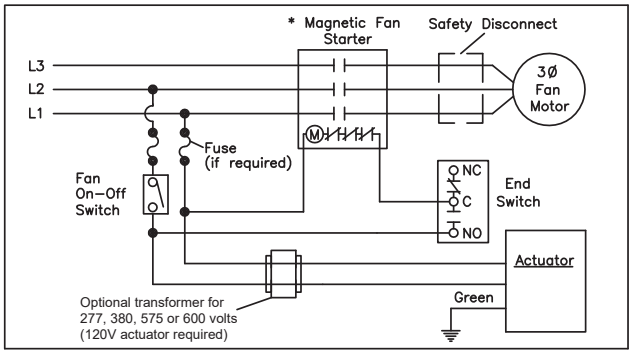
Single Phase



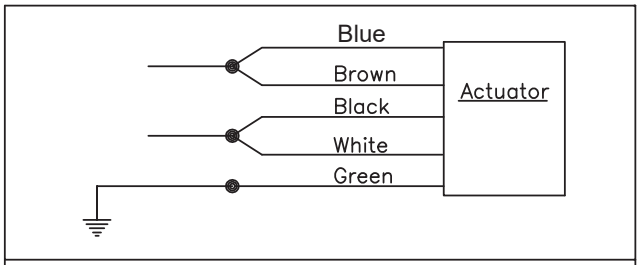


Three Phase

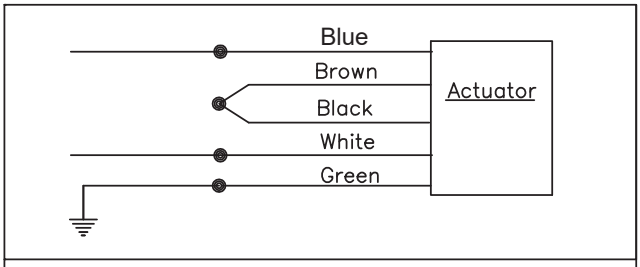




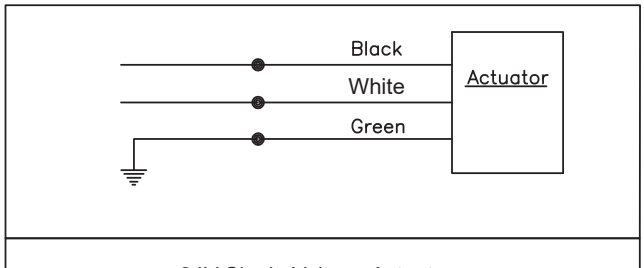
Actuator Wiring Diagrams



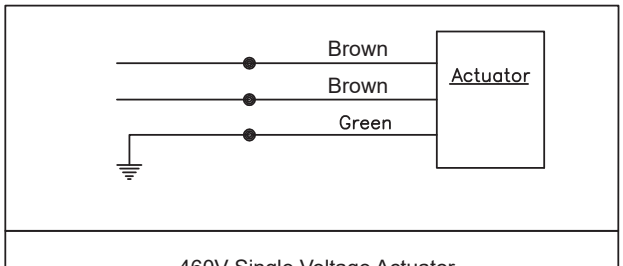
110/115/120V Dual Voltage Actuators



208/220/230/240V Dual Voltage Actuators



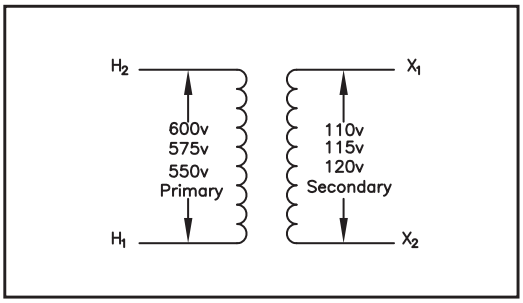
24V Single Voltage Actuator



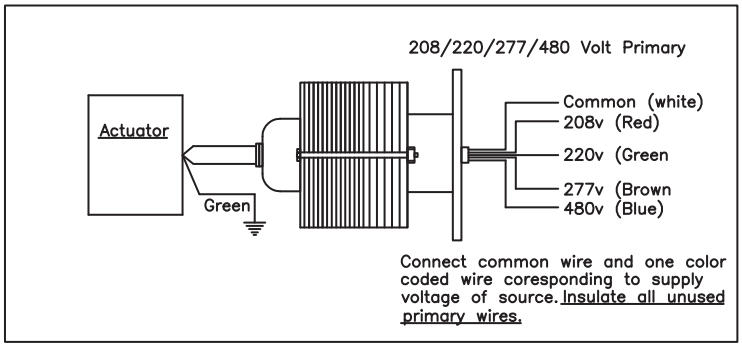
460V Single Voltage Actuator

Transformers

575/600 Volt Transformer Model B050WZ13



208/220/277/460 Volt Transformer



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, either on the specific product page or in the literature section of the website at Greenheck.com/Resources/Library/Literature.

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