

A black Hunter Industrial XP ceiling fan is shown from a low-angle perspective, looking up at the motor housing and the central downrod. The fan has five blades, each with a small circular detail near the base. The Hunter logo is visible on the motor housing. The background is plain white.

Hunter
INDUSTRIAL

XP

INSTALLATION
MANUAL

CONTENTS



BEFORE YOU BEGIN

SAFETY & PRECAUTIONS	2-4
FAN PLACEMENT	5-6
PRE-INSTALLATION	7
TOOLS NEEDED	8
IN THE BOX	9



INSTALLATION

STEP 1: MOUNTING	10-12
STEP 2: RETENTION SYSTEM	13
STEP 3: MOTOR ASSEMBLY	14
STEP 4: CONTROL PANEL	15-16
STEP 5: STANDARD CONTROL	17
STEP 6: BLADES	18



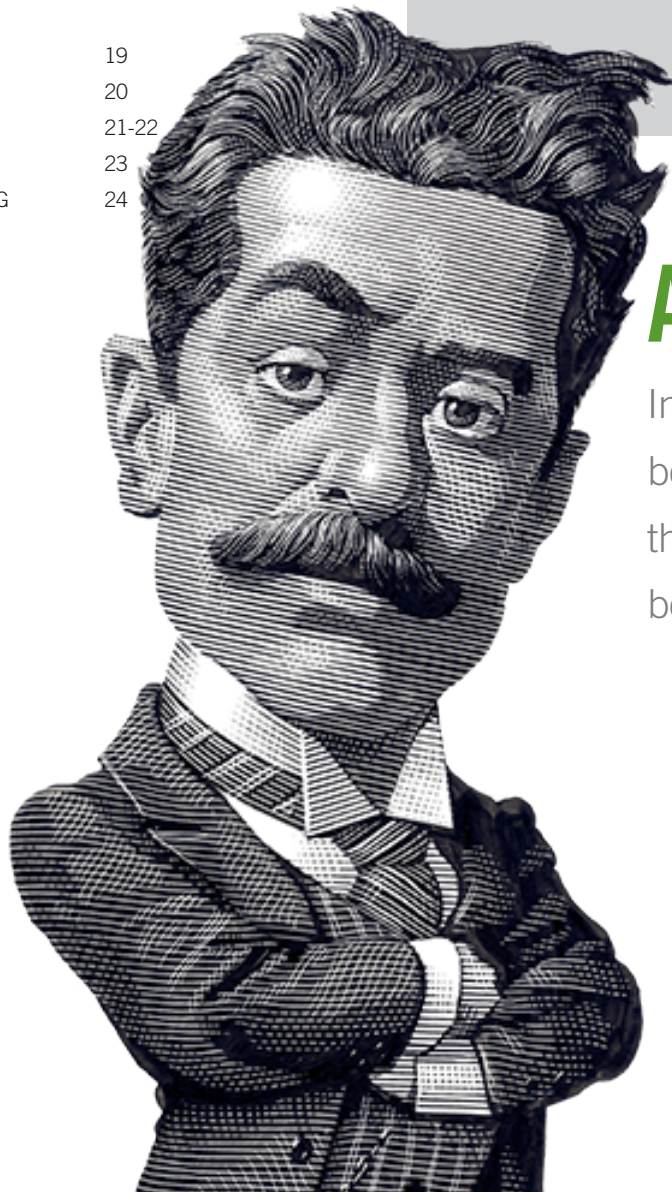
REFERENCE

ELECTRICAL	19
DAISY CHAINING	20
FIRE PANEL	21-22
MAINTENANCE	23
TROUBLESHOOTING	24

1886

LEGACY

The Hunter legacy is not only about quality—it's about longevity. We invented the ceiling fan. We build fans that last, fans that are designed as fans. We design our fans while considering each person in the process—from the installer to the owner.



AUTHENTICITY

In a world full of impersonators, be an original. We invented the ceiling fan, and we stand behind our products.

Hunter
INDUSTRIAL




BEFORE YOU BEGIN

SAFETY & PRECAUTIONS

Important Safety Information

To prevent SERIOUS INJURY, DEATH and PROPERTY DAMAGE, you should read, understand and follow the warnings and instructions in this manual before installing or operating the fan.

 **READ AND SAVE THESE INSTRUCTIONS.** This manual must always be kept with the fan and should remain with the fan if it is transferred or sold. Always give manual to fan owner following installation.

WARNING



FIRE, ELECTRIC SHOCK and CRUSH HAZARDS.

To prevent SERIOUS INJURY or DEATH:

- **ALWAYS** mount fan directly from building structure that can withstand double the maximum hanging fan weight and install the Retention Cable.
- **BEFORE** installing or servicing your fan, **ALWAYS** disconnect the power by turning off the circuit breaker or breakers to the fan locations. If you cannot lock the circuit breakers in the off position, securely fasten a prominent warning device, such as a tag, to the electrical panel.
- All wiring must be in accordance with national and local electrical codes, including ANSI/NFPA 70. If you are unfamiliar with wiring or in doubt, consult a qualified electrician.
- **DO NOT** install fan to be used in the presences of flammable vapors and gases or environments where combustible dust is present.
- **DO NOT** bend the blades or blade holders when installing or cleaning the fan.
- **DO NOT** insert foreign objects in between rotating fan blades.

Installation, Adjustment, Repair or Maintenance Must Be Performed By Qualified Personnel.

Follow all safety practices and instructions during the installation, operation and servicing of the fan. Failure to apply these safety practices could result in death or serious injury. If you do not understand the instructions, please call our Technical Department at 1-844-593-FANS (3267) for guidance.

Always Check Federal, State and Local Codes Before Installing Fan.

Code compliance is the responsibility of the installer. Check all relevant codes to make sure that all product certifications, product listings and building regulations are met.

Professional installation practice requires following local utility company guidelines for connecting to AC mains.

This unit is for professional use only and is not required to comply with EN 61000-3-2:2006.

This fan conforms to ANSI/UL standard 507, Electric Fans and is certified to CSA STD C22.2 No. 113, Fans & Ventilators.





BEFORE YOU BEGIN

SAFETY & PRECAUTIONS



WARNING



Electric Shock Hazard

To prevent serious injury or death:

- **BEFORE installing or servicing your fan, ALWAYS disconnect the power by turning off the circuit breaker or breakers, to the fan locations and confirm Lockout/Tagout procedures are in place. If you cannot lock the circuit breakers in the off position, securely fasten a prominent warning device, such as a tag, to the electrical panel.**
- **All wiring must be in accordance with national and local electrical codes, including ANSI/NFPA 70. If you are unfamiliar with wiring or are in doubt, consult a qualified electrician.**
- **Do not use extension cord with fan.**
- **Do not remove covers while power is on.**
- **Do not use improper voltage source.**

All fan controls and incoming power should be installed only by qualified technicians familiar with the requirements of the National Electrical Code and local codes. Failure to follow these guidelines will void the manufacturer's warranty.

All electrical controls are configured at the factory and are ready to use. No user adjustments are available. Follow the included installation instructions when installing this device to ensure proper operation. Do not make any changes to any part of the fan without first consulting Hunter Industrial Fan. Installation is to be in accordance with ANSI/NFPA 70: National Electrical Code and local codes.

The user is responsible for compliance with all international and National Electrical Code requirements with respect to grounding of all equipment. Many of the parts of this unit operate at line voltage.

Before installing, servicing or cleaning the unit, switch power off at the service panel, lock the service disconnecting means and confirm Lockout/Tagout procedures are in place to prevent power from being switched on accidentally. When the service disconnect means cannot be locked, securely fasten a prominent warning sign, such as a tag, to the service panel.

To reduce the risk of electric shock, serious injury and death, only use this unit as intended by the manufacturer. If you have any questions, call our Technical Department at 1-844-593-FANS (3267).



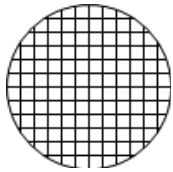
BEFORE YOU BEGIN

SAFETY & PRECAUTIONS

WARNING **CRUSH HAZARD**

To prevent serious injury or death, **ALWAYS** attach the Retention Cable to the fan motor and secure to the building structure on **EVERY** fan.

The Retention Cable, if installed per Hunter Industrial Fan specifications, can limit the distance the fan could fall in the unlikely event of mounting system failure. Failure to install and to secure the Retention Cable will void your warranty.



Mark the Floor to Alert Personnel

When mounting a fan in an area where materials could be elevated and contact the rotating fan blades, mark or paint the floor with a large crosshatched circle, similar to the figure to the left, to alert personnel of the overhead fan locations.

Weight and Torque Considerations

Always mount fan directly to building structure that can withstand approximately double (2x) the maximum hanging weight of the fan.

The hanging weight of a 14' fan with a standard 2' downrod is 121 lbs.. The maximum hanging weight of a 14' fan with a 4' downrod is 135 lbs and a maximum torque of 75 ft lbs.

If there is any uncertainty about the potential for the building structure to withstand double the maximum hanging weight of the fan, a professional structural engineer should perform a thorough evaluation of the building prior to purchasing the fans. Hunter Industrial Fan provides guidelines for mounting fans; however, it is the sole responsibility of the building owner and installer to ensure the safety of the mounting system and Retention Cable, the building structure is sound and the installation complies with all federal, state and local codes.

Always Use Personal Protective Equipment

You should always wear Personal Protective Equipment, such as a Hard Hat, Safety Glasses and a Fall Harness when installing Industrial fans.

Damaged Equipment

Never operate or install any fans or fan accessories that appear to be damaged. Failure to follow this instruction can result in death, serious injury or equipment damage.

To reduce the risk of personal injury, do not bend the blades or blade holders when installing or cleaning the fan. Do not insert foreign objects in between rotating fan blades.

Service

If the fan does not operate properly using the procedures in this manual, remove all power to the unit and contact our Technical Department for further assistance at 1-844-593-FANS (3267).



BEFORE YOU BEGIN

FAN PLACEMENT

⚠ ALWAYS mount fan so the bottom edge of blade to the floor is at least 10 feet from the floor and at least 25% of fan diameter from the ceiling.

Always mount fans away from the following:

Sprinkler Systems

Prior to installing fans, review all codes applicable to sprinkler systems and fans to ensure code compliance and refer to NFPA 13: Fire Sprinkler System Installation. In any installation where fire sprinklers are present, the fan should not interfere with their operation.

- o Fans should be located at least 3 feet below a sprinkler deflector.
- o Fans should be centered between 4 adjacent sprinklers.
- o The Industrial Control Panel should be connected to a fire relay system, which can stop the fans in the event a fire occurs.

It is your responsibility that the installation complies with the applicable codes. For assistance, please call our Technical Department at 1-844-593-FANS (3267).

Walkways and Mezzanines

If the building has elevated walkways or mezzanines, mount the fans so that a person cannot reach the rotating blades in any way. Position fans so that the tips of the blades are at least 5 feet away from any area where a person may be able to extend outward to reach them.

Lights and Skylights

If possible, avoid mounting fans directly below lights or skylights to avoid any strobe effect caused by moving blades.

There should be a minimum of 2 feet between the blades and any light fixture.

Air Discharge Locations

Fans should not be located directly beneath any air discharge. This includes air conditioning units and evaporative coolers. Such equipment can be used effectively in conjunction with high-volume low-speed (HVLS) fans however the discharge of the unit must be located outside the swept area of the fan and at a distance of at least two times the diameter.

Windy Locations

Do not operate or install fans in outdoors or in areas exposed to wind. Failure to follow this instruction can result in death, serious injury or equipment damage.

Wet Locations

DO NOT locate fans where they may come into direct contact with water. These fans are suitable for mounting in damp locations.

Other HVLS Fans

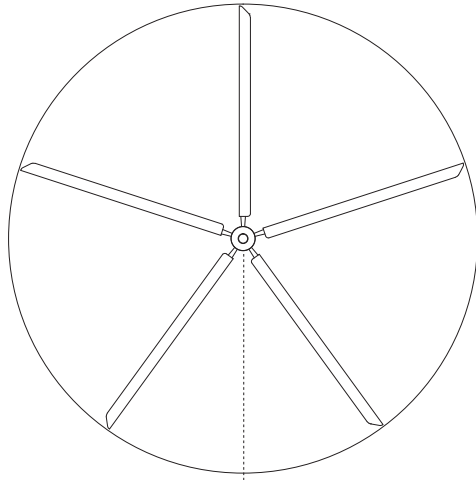
See the chart on the following page to determine proper spacing between adjacent fans.



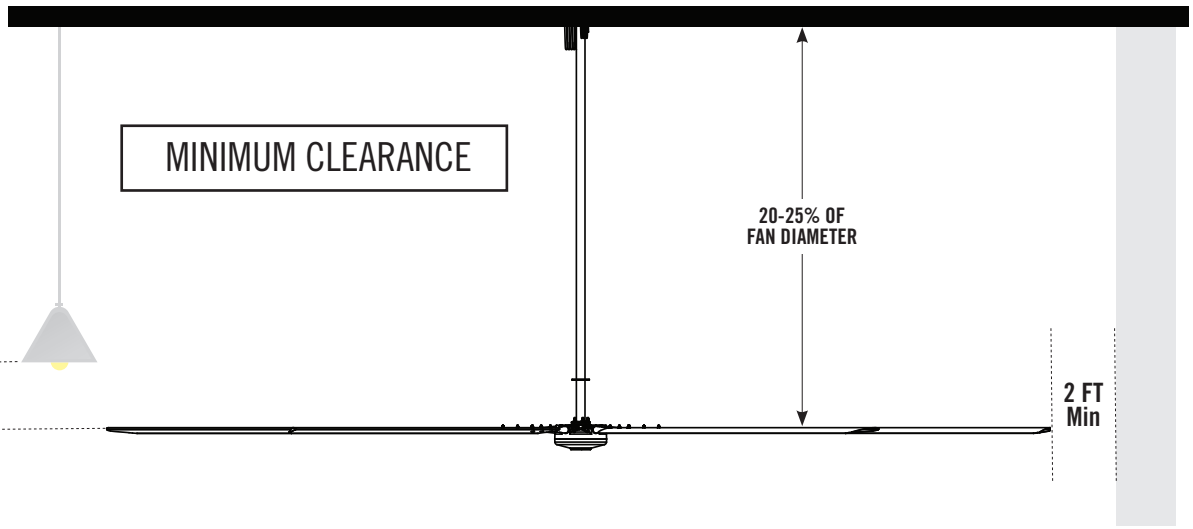
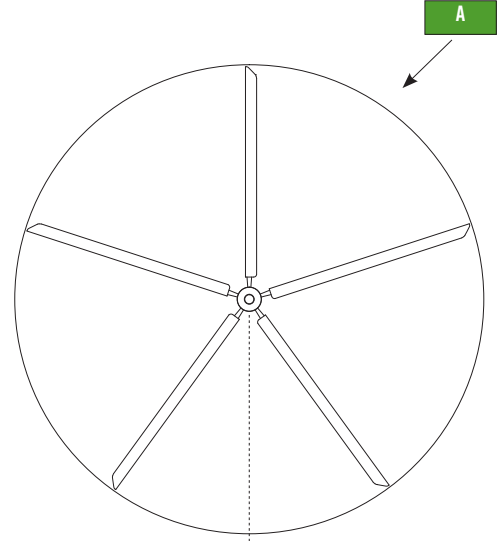
BEFORE YOU BEGIN

FAN PLACEMENT

FAN PLACEMENT



FAN SPACING CHART	
XP	
A	B
DIA	MIN - MAX
14ft (427cm)	35ft - 56ft (10,67m - 17,07m)
12ft (366cm)	30ft - 48ft (9,14m - 14,63m)
10ft (305 cm)	25ft - 40ft (7,62m - 12,19m)
8ft (244 cm)	20ft - 32ft (6,10m - 9,75m)
7ft (213 cm)	18ft - 28ft (5,49m - 8,53m)





BEFORE YOU BEGIN

PRE-INSTALLATION CHECKLIST

<input type="checkbox"/>	A structural engineer has approved the mounting structure.
<input type="checkbox"/>	The location of the fan will allow for a minimum of 2 feet of blade clearance from any obstruction and at least 10 feet of clearance above the floor.
<input type="checkbox"/>	The fan location will not be subjected to high winds.
<input type="checkbox"/>	If installing multiple fans, reference the fan placement chart for optimal spacing.
<input type="checkbox"/>	The control panel, motor and blade assemblies are all marked with the fan diameter. Ensure the markings all match when assembling the fan.
<input type="checkbox"/>	The control panel voltage markings (<i>100-120VAC</i>) should match your building supply power.
<input type="checkbox"/>	The fan power should be run to 5 feet outside the swept area of the fan. Please refer to the chart on page 19 for the appropriate receptacle and breaker size.



BEFORE YOU BEGIN

TOOLS NEEDED

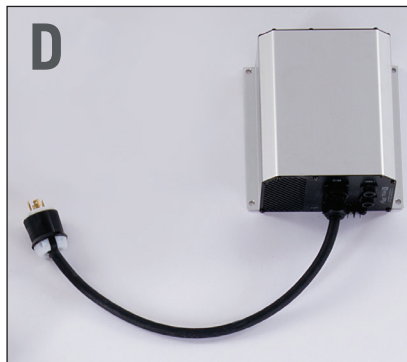
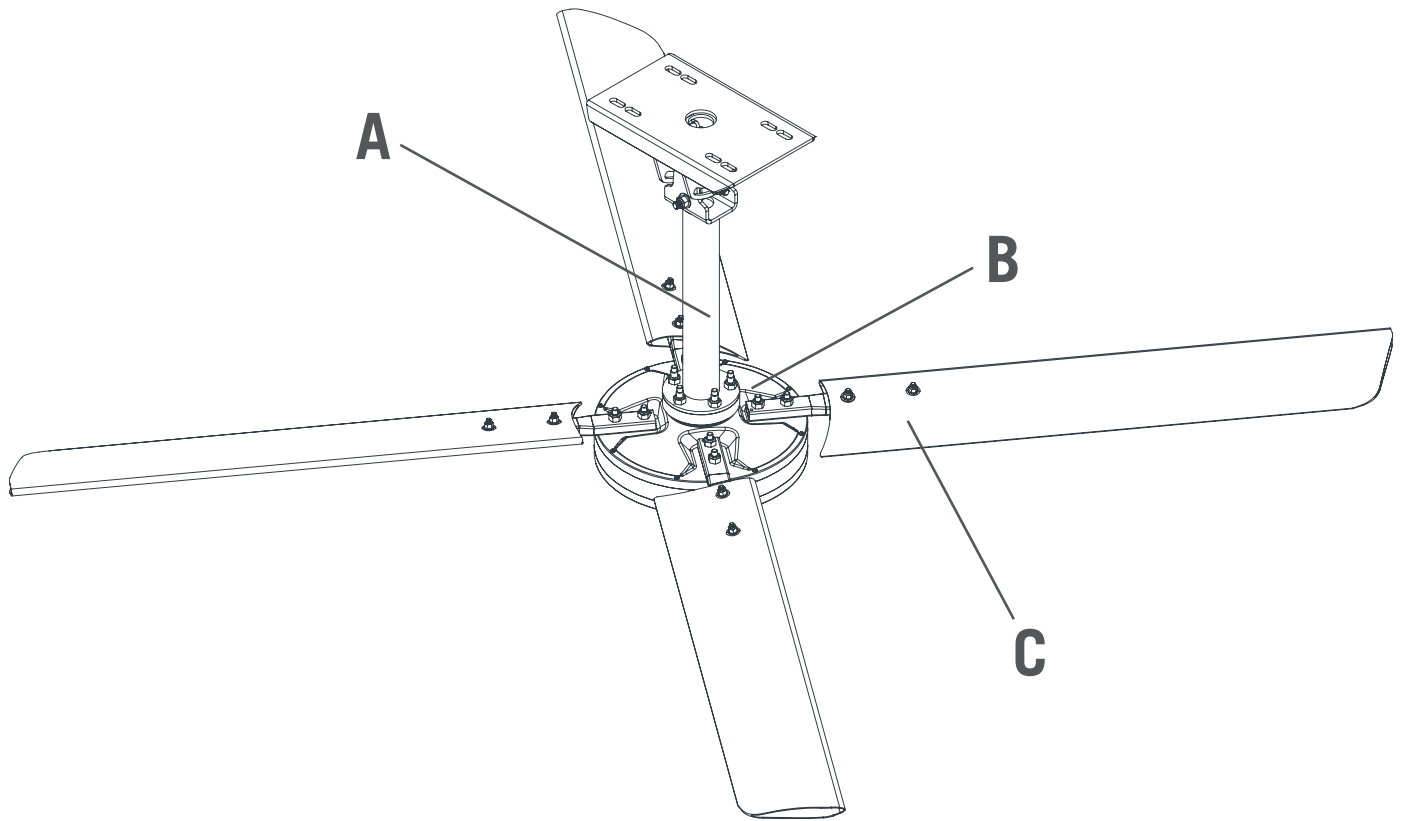
- Metric Combination Wrench Set (10mm - 19mm)**
- Metric (Deep & Short) Socket and Ratchet Set**
- Standard (Deep & Short) Socket and Ratchet Set**
- Metric Allen Wrench Set**
- Metric Allen Socket Set**
- Tape Measure**
- Magnetic Level (Magnetic post level recommended)**
- Torque Wrench**
- Wire Rope Cutters (optional)**
- Phillips and Flat Head Screwdrivers**
- #10 to #14 AWG Strippers (optional)**
- Multimeter (optional)**
- Cat5 Termination Tools (optional)**
- Cat5 Tester (recommended)**



BEFORE YOU BEGIN

IN THE BOX

FAN COMPONENTS



- A (1) Downrod
- B (1) Motor
- C (4) Blades
- D (1) Control Panel
- E (1) 350 Series Control



- F (1) Communication Cable
- G (1) Installation Manual *(not shown)*
- H (1) HMI Operator's Manual *(not shown)*

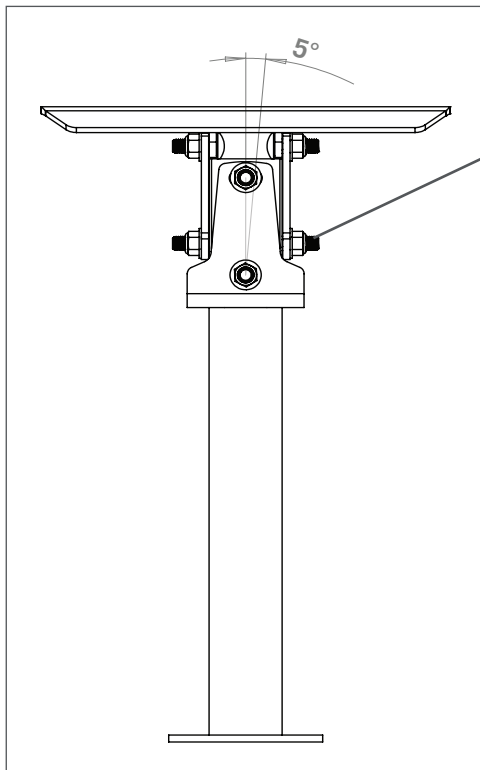


WARNING **CRUSH HAZARD**

To prevent **SERIOUS INJURY** or **DEATH ALWAYS**, mount fan directly from building structure that can withstand double the installed fan weight.

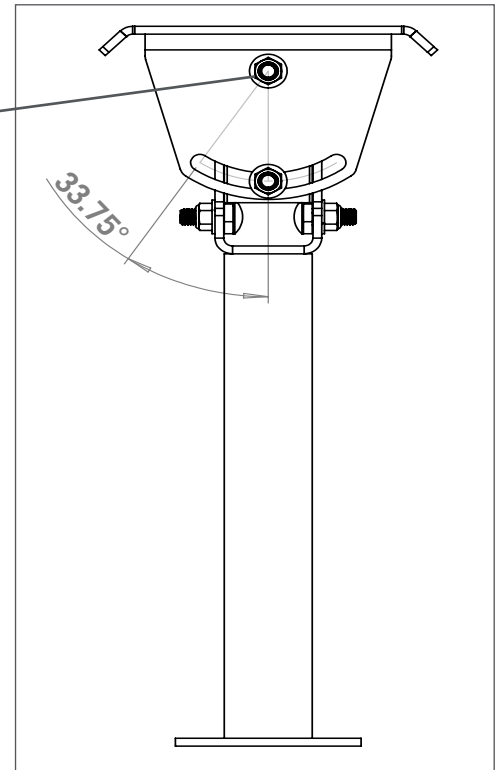
- **CAUTION:** Do not install the fan from a single structure such as a perlin, truss, I-beam or bar joist.
- For any questions or concerns regarding the building structure, consult a structural engineer.
- Ensure the attachment point can support two times the weight of the fan and maximum torque of 75ft lbs. A structural engineer should verify the structure prior to fan installation.

RIGID MOUNT OVERVIEW



5 degrees of adjustment to accommodate an unlevel beam.

Tighten all 8 locking nuts to 65 ft lbs with 3/4 inch socket and torque wrench.



33.75 degrees of adjustment to accommodate 8/12 roof pitch.



⚠️ WARNING CRUSH HAZARD

To prevent **SERIOUS INJURY** or **DEATH ALWAYS**, mount fan directly from building structure that can withstand double the installed fan weight.

- **CAUTION:** Do not install the fan from a single structure such as a perlin, truss, I-beam or bar joist.
- For any questions or concerns regarding the building structure, consult a structural engineer.
- Ensure the attachment point can support two times the weight of the fan and maximum torque of 75ft lbs.
- A structural engineer should verify the structure prior to fan installation.

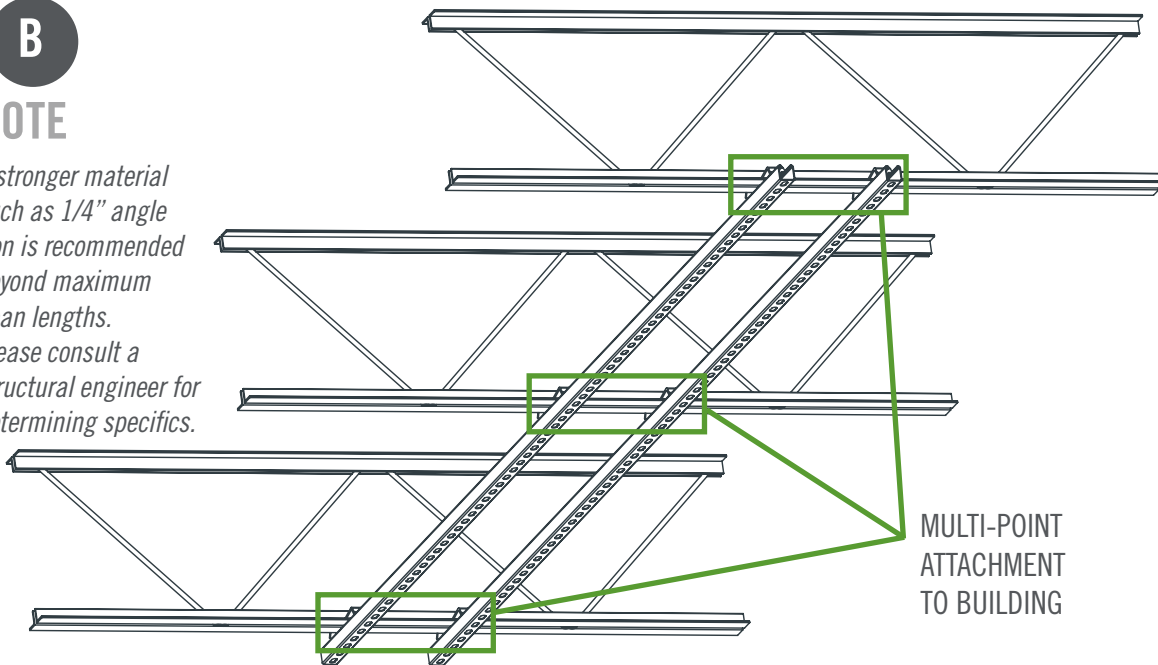
A

CHANNEL HEIGHT	MATERIAL THICKNESS	MAXIMUM SPAN LENGTH
1 5/8"	12 GA.	84"
1 5/8"	14 GA.	72"
1 5/8"	16 GA.	60"
1 3/8"	12 GA.	60"
7/8"	12 GA.	30"
3 1/4"	12 GA.	240"
2 7/16"	12 GA.	156"

B

NOTE

A stronger material such as 1/4" angle iron is recommended beyond maximum span lengths. Please consult a structural engineer for determining specifics.



Warning: Support directly from building structure



INSTALLATION

1

MOUNTING

A

Select proper strut channel from the chart.

B

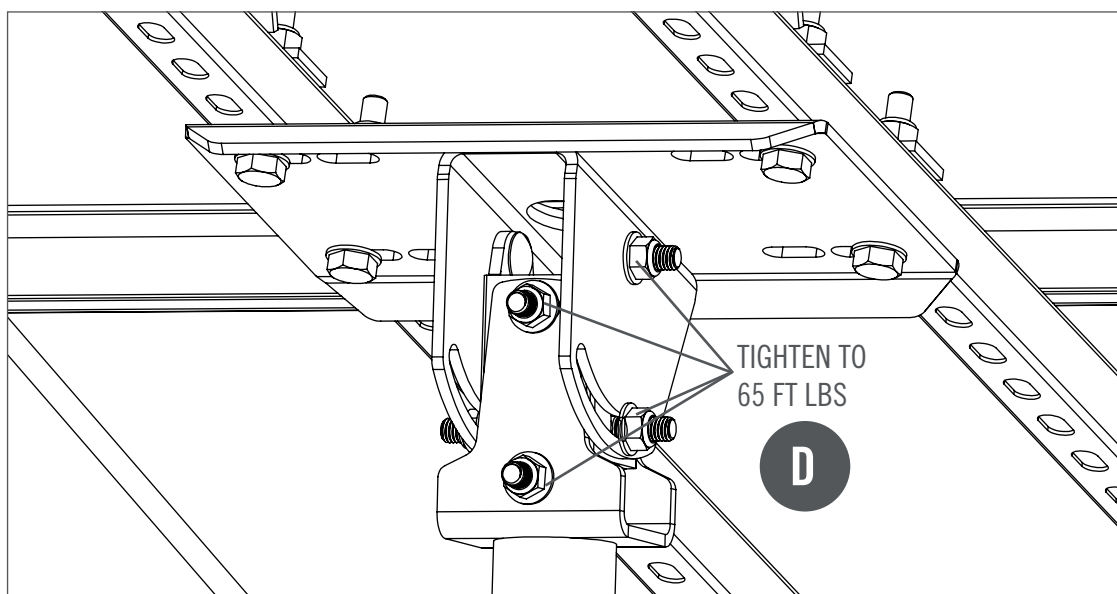
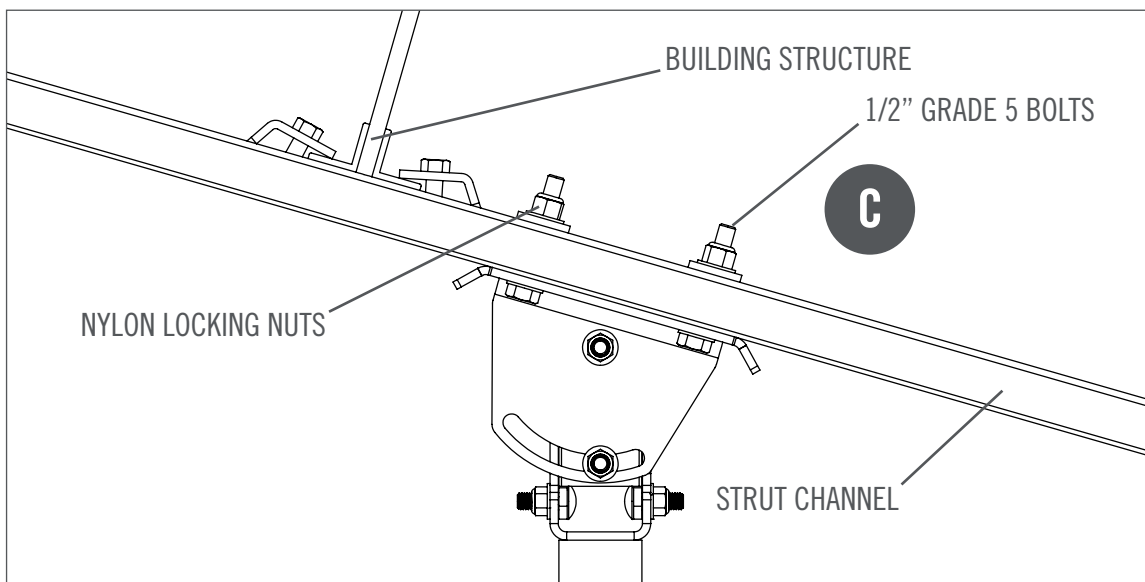
Use strut channel or similar to span three points of the building structure and create a stable attachment point for the fan.

C

Bolt fan mounting plate to attachment point using 1/2" grade 5 bolts and nylon locking nuts.

D

Using a fence post level plumb the downrod and torque all 8 locking nuts to 65 ft lbs.



Warning: Support directly from building structure



WARNING



CRUSH HAZARD. To prevent serious injury or death, **ALWAYS** attach the Retention Cable to the fan motor and secure to the building structure on **EVERY** fan.

A

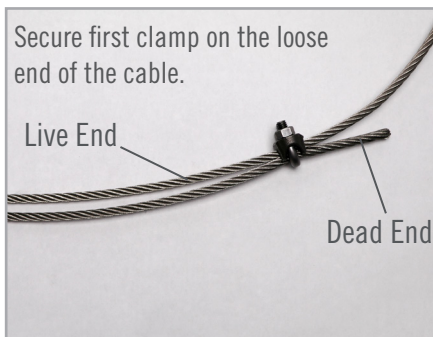
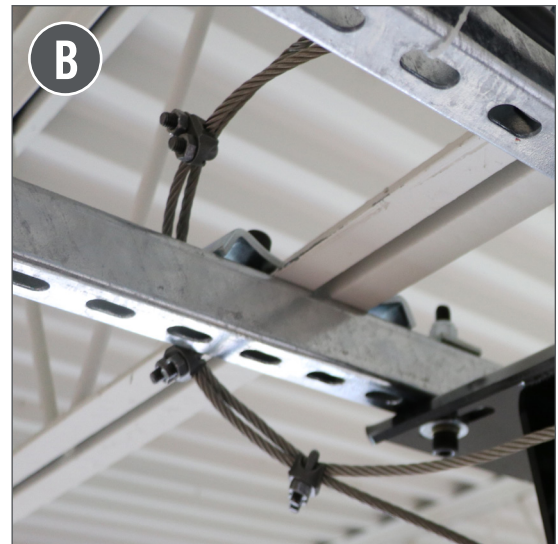
Wrap retention cable around building structure that can withstand double the installed fan weight.

B

Secure remaining cable to itself with cable clamps.

NOTE

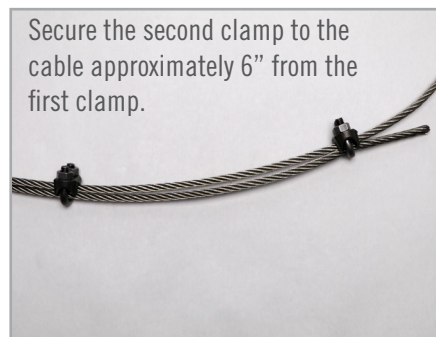
Leave approximately 3" of slack in the wire and the cable, at the top of the downrod opening.



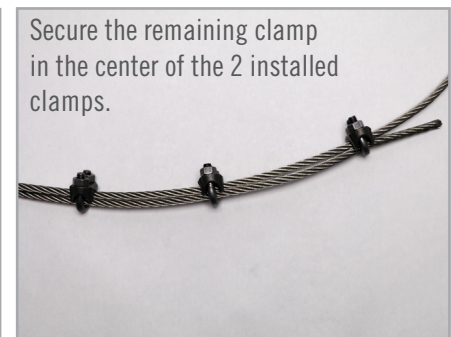
Secure first clamp on the loose end of the cable.

Live End

Dead End



Secure the second clamp to the cable approximately 6" from the first clamp.



Secure the remaining clamp in the center of the 2 installed clamps.

When attaching cable clamps, remember: **“Never saddle a dead horse.”**

Place the u-bolt on the “dead” end of the Retention Cable and the saddle on the “live” portion of the Retention Cable. If done incorrectly, the U-bolt could crush the wire when tightened and can reduce the strength of the wire.



INSTALLATION

3

MOTOR ASSEMBLY

WARNING



CRUSH HAZARD. To prevent serious injury or death, **ALWAYS** attach the Retention Cable to the fan motor and secure to the building structure on **EVERY** fan.

A

Insert retention link into fork and align holes.

Insert clevis pin into retention rod and secure with provided clip to connect Retention Cable to the motor.

B

To connect the VFD cable to the fan motor, join the two connectors and twist, making sure they lock together

C

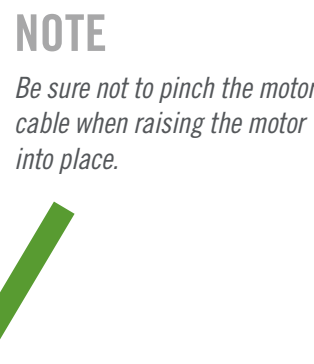
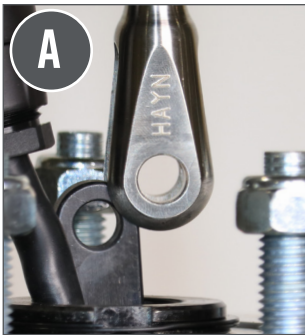
Raise motor, using a lift, up to downrod while pushing cables into downrod.

Feed the press studs through downrod flange and secure with nylon lock nuts. (Pull excess wire and cable through top of downrod.)

NOTE

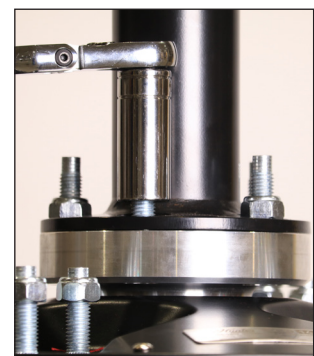
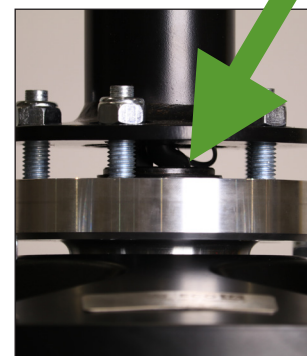
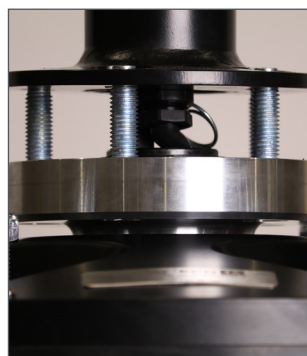
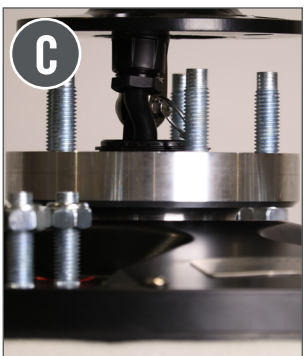
Leave approximately 3" of slack in the wire and the cable, at the top of the downrod opening.

NOTICE NEVER LIFT BY MOTOR CABLE



NOTE

Be sure not to pinch the motor cable when raising the motor into place.





WARNING **Electric Shock Hazard**

Electric Shock Hazard.

To prevent serious injury or death:

- **BEFORE** installing or servicing your fan, **ALWAYS** disconnect the power by turning off the circuit breaker or breakers to the fan locations and confirm Lockout/Tagout procedures are in place.
- If you cannot lock the circuit breakers in the off position, securely fasten a prominent warning device, such as a tag, to the electrical panel.
- All wiring must be in accordance with national and local electrical codes, including ANSI/NFPA 70. If you are unfamiliar with wiring or in doubt, consult a qualified electrician.
- The electrical receptacle for the panel should be installed prior to panel installation. For a chart of receptacles, refer to page 19.
- Do not use an extension cord with fan.
- Do not remove covers while power is on.
- Do not use improper voltage source.



INSTALLATION

4 CONTROL PANEL

A

The control panel should be mounted 5 feet outside of the swept area of the fan.

B

Position the control panel with plug connectors facing down.

If using uni-strut attached to the building structure, secure Industrial Control Panel with four 1/4-20 fasteners, one in each corner of the panel.

C

Connect VFD cable from fan to the Industrial Control Panel. Twist to lock in place. Secure excess cable to mounting location.

D

Connect the communication cable (Cat 5) to one of the COMM terminals and run cable down to the control location.



NOTE

Twist Lock will act as a disconnect.

CAUTION: DO NOT CONNECT POWER UNTIL MECHANICAL INSTALLATION IS COMPLETE.

TIP

For detailed E-Stop (Fire Relay) wiring, see Page 20

E

The standard control/HMI Operator's manual (not shown) is included with the fan.



INSTALLATION

5 BLADES

A

To install blade, insert the press studs through the holes in the blade holder.

Remember to install with the numbers facing up.

B

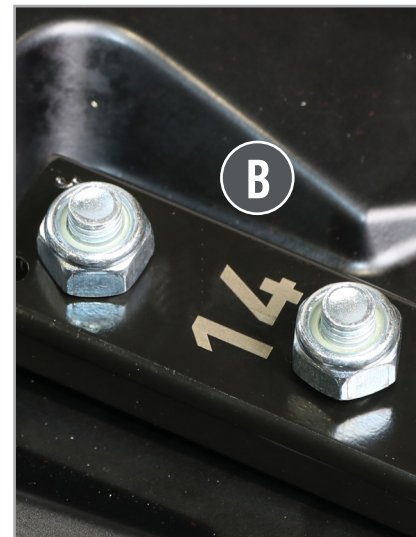
Start the nylon lock nuts onto the press studs to hold the blade in place.

C

Tighten the nylon locknuts on the the press studs using the 19mm wrench or socket.

D

Repeat steps A-C for each of the three remaining blades.



NOTE

The blade is marked with a number to signify the corresponding fan size.

NOTICE

ALWAYS confirm the number on each fan blade holder matches the number on the motor plate. This will ensure properly sized fan blades are installed to each motor and prevent damage to the fan.

To reduce the risk of personal injury, do not bend the blades or blade holders when installing the fan.



Electrical Plug Requirements

Voltage	Plug	Receptacle
110-120V	L5-15P	L5-15R

A Plug and Receptacle are included with each fan.



Breaker Size Chart

XP AMP DRAW		
Fan Diameter	110V	Recommended Breaker Size
14'	7.5A	10A
12'	8.4A	15A
10'	9.1A	15A
8'	5.2A	10A
7'	6.7A	10A

Do not use an extension cord with fan.
Do not remove covers while power is on.
Do not use improper voltage.



When daisy chaining fans with one control, the layout will be similar to the one below:



A

You will have one Cat5e cable (or 2 with for premium) from the HMI to the Drive of the first fan:

B

When you first apply power to the HMI, it will ask how many fans on the circuit. All other critical programming is done by Hunter

C

The cable can plug in to either comm1 or comm2. The next cable will plug into the unused port and plug into a comm port on the next drive, and so on. The different premium models will have (2) RJ45 jacks, allowing for the HMI to be in the middle of the fan circuit

NOTICE

you will need a 115v outlet for your HMI

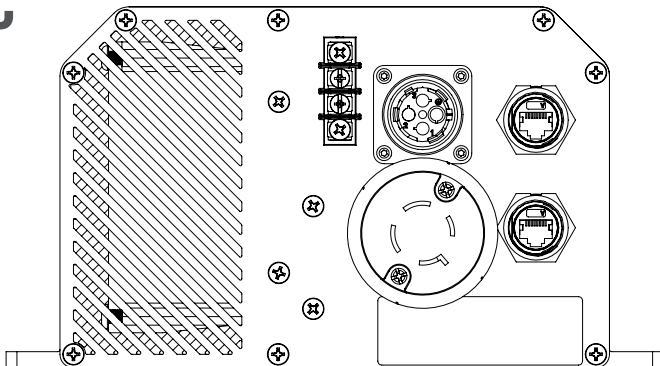
A



or

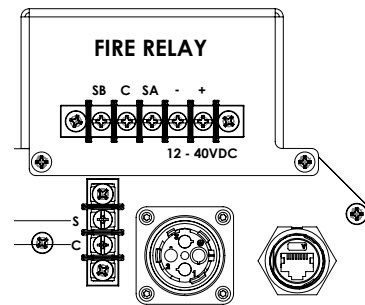


C

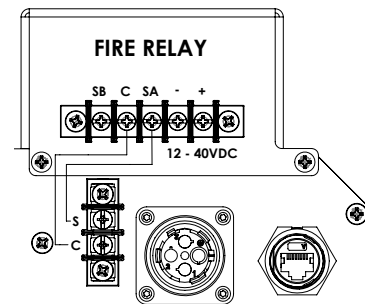


**DRY CONTACTS: NORMALLY CLOSED**

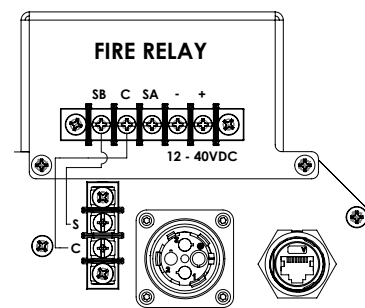
- On the Terminal Strip mounted to the outside of the VFD enclosure a Jumper will be in place on terminals “S” and “C”. Remove the Jumper from terminals “S” and “C”.
- Connect the wires coming from the Fire Panel to terminals “S” and “C”.

**NORMALLY ENERGIZED**

- On the Terminal Strip mounted to the outside of the VFD enclosure a Jumper will be in place on terminals “S” and “C”. Remove the Jumper from terminals “S” and “C”.
- Connect a wire from terminal “S” to “SA” on the Fire Relay Terminal Strip.
- Connect a wire from terminal “C” to “C” on the Fire Relay Terminal Strip.
- Apply 12-40VDC from Fire Panel to Fire Relay Input. Relay has a 20mA draw.

**NORMALLY UNENERGIZED**

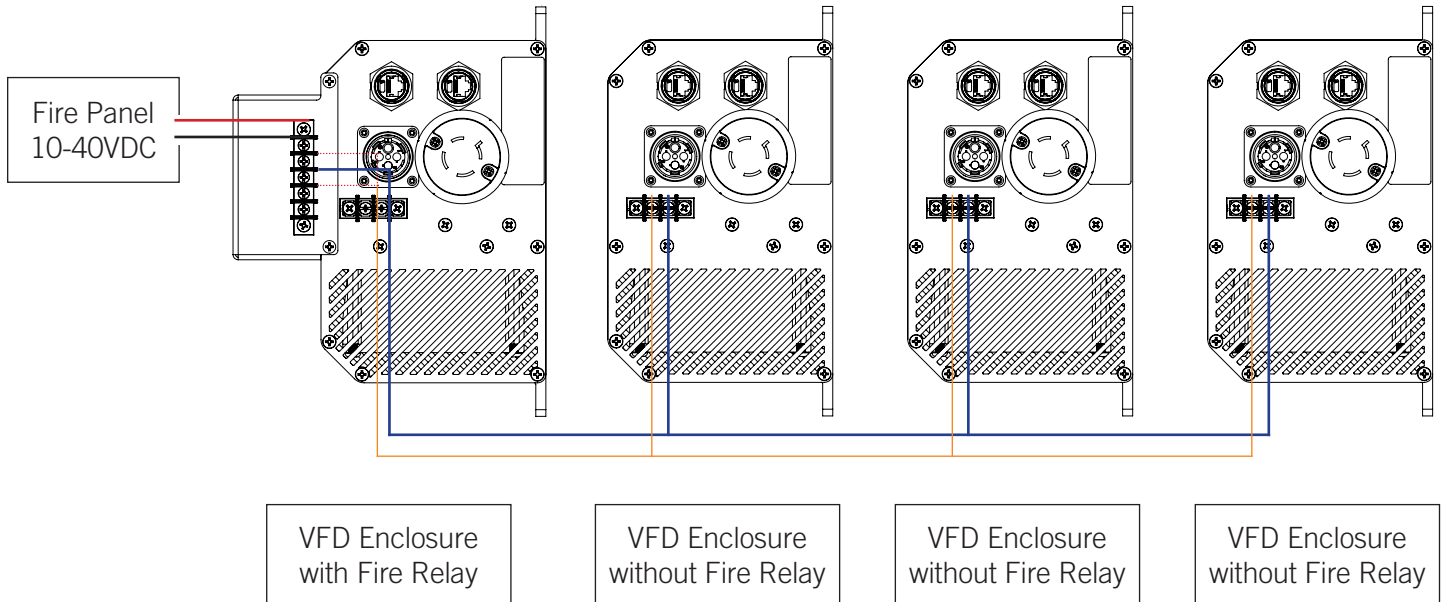
- On the Terminal Strip mounted to the outside of the VFD enclosure a Jumper will be in place on terminals “S” and “C”. Remove the Jumper from terminals “S” and “C”.
- Connect a wire from terminal “S” to “SB” on the Fire Relay Terminal Strip
- Connect a wire from terminal “C” to “C” on the Fire Relay Terminal Strip.
- Apply 12-40VDC from Fire Panel to Fire Relay Input. Relay has a 20mA draw.



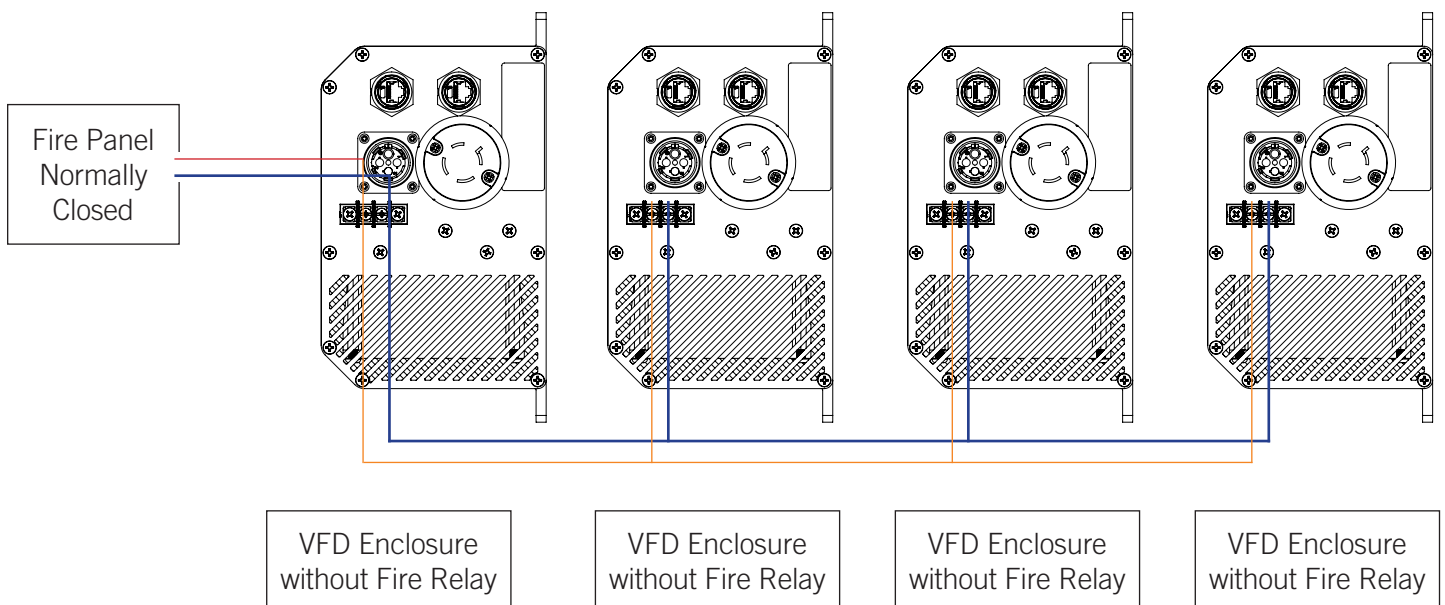


FIRE RELAY ARRANGEMENT FOR MULTIPLE FANS (30 FAN MAXIMUM)

Normally Energized/Unenergized



Dry Contacts





WARNING **Electric Shock Hazard**

Electric Shock Hazard

To prevent serious injury or death:

- **BEFORE performing maintenance or service, ALWAYS disconnect the power by turning off the circuit breaker or breakers to the fan locations and confirm Lockout/Tagout procedures are in place.**
- **If you cannot lock the circuit breakers in the off position, securely fasten a prominent warning device, such as a tag, to the electrical panel.**
- **Do not remove covers while power is on.**

Blade Cleaning

Depending on the commercial application, dust or other particulates can build up on the fan blades over time. At least every 12 months, a maintenance person or skilled trade professional, who has experience using a lift, should clean the blades using a rag or sponge and hot water or regular cleaning solutions.

DO NOT use chlorine or any chemicals containing chlorine, or the blades may be damaged.

Retention System Check

Each fan is installed with a retention system. Every 12 months, check that the Retention Cable is properly attached to the building structure. Inspect the visible portions of the Retention Cable for damage, including fraying.

The Retention Cable is an important part of the safety system and protects users in the unlikely event of a catastrophic situation. It is critical for fan owners to ensure that it is intact and properly secured.

Replacement Parts

Please call 1-844-593-FANS (3267) for replacement parts.

Service

If the fan does not operate properly using the procedures in this manual, follow Lockout/Tagout procedures for your facility and lockout all power to the unit and contact our Technical Department for further assistance at 1-844-593-FANS (3267).

**Symptom****Possible solution****FAN WILL NOT START**

- Verify that the fan's circuit breaker has power and that it is on.
- Does the VFD's receptacle have power and is the VFD plugged in?
- Check for secured plug connections. Each connection should be checked to ensure they are fully engaged.
- Inspect for loose wiring connections. Each termination should be checked to be sure they are firmly tightened.

IF THE ABOVE IS VERIFIED AS WITHIN SPECIFICATION

- Cycle the power to the VFD by flipping the circuit breaker off for a minimum of 3 minutes. Flip the circuit breaker back on and check the fan's operation.

MOTOR IS PULLING EXCESSIVELY HIGH AMPS

- Make sure the motor voltage is a match for the supply voltage.
- Make sure that correctly sized fan blades have been installed.

FAN IS "SWINGING" AS IT RUNS

- Check for correct fan blade installation. Be sure that all blades are the same size and that all blades have been properly installed and tightened.
- Ensure all downrod hardware has been tightened to 65 ft lbs. and that the downrod is plumb.
- Check for improper incoming air discharge. Make sure that no discharge is blowing directly on the fan.

A FAN BLADE APPEARS TO BE 'SAGGING'

- Make sure that the 'sagging' blade has been properly tightened.

For situations beyond the scope of this Guide, please call our Technical Service Department at 1-844-593-3267 (FANS).

NOTES

NOTES

NOTES



2434 ATRIUM WAY
NASHVILLE, TN 37214

1-844-591-FANS (3267)
TECHNICAL DEPARTMENT: 1-844-591-FANS (3267)

[HUNTERFAN.COM/INDUSTRIAL](https://www.hunterfan.com/industrial)