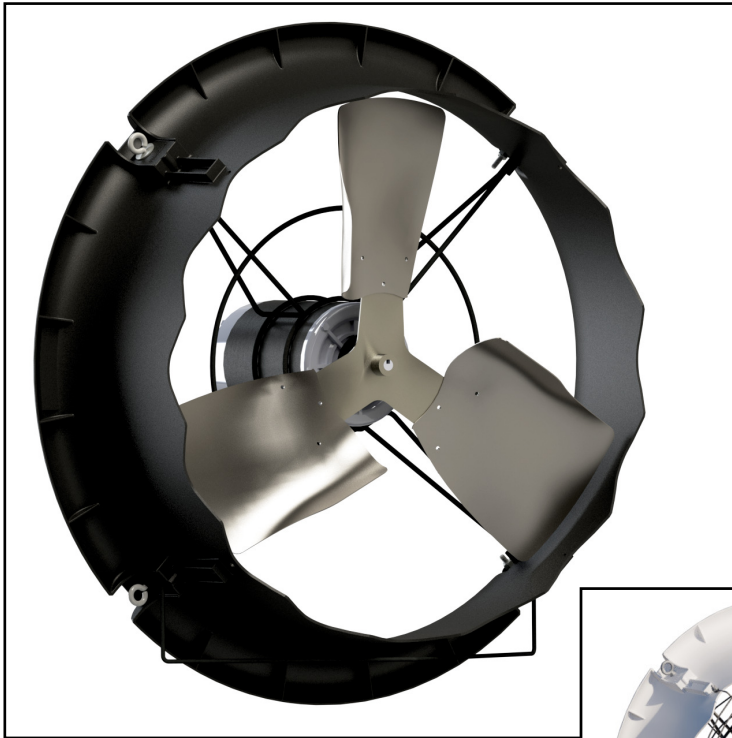


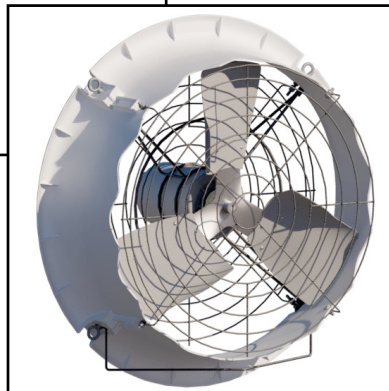
Instruction Manual

CX Circulation Fan with or without Guard 24" Fan

*Patents Pending



CX24P1/CX24P3



CX24PW1G/CX24PW3G

CX24 Circulation Fan - 24"

Fan Models: CX24P1 • CX24P3 • CX24P1G • CX24P3G •
CX24PW1 • CX24PW3 • CX24P1WG • CX24P3WG



CX24 Circulation Fan 24" Fans

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Munters CX Circulation Fan. Munters equipment is designed to be the highest performing, highest quality equipment you can buy. With the proper installation and maintenance it will provide many years of service.

Please Note:

To achieve maximum performance and insure long life from your Munters product it is essential that it be installed and maintained properly. Please read all instructions carefully before beginning installation.

Warranty:

For Warranty claims information see the "Warranty Claims and Return Policy" form QM1021 available from the Munters Corporation office at 1-800-227-2376 or by e-mail at aghort.info@munters.com.

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the "Warranty Claims and Return Policy" shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Munters Corporation.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

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Unpacking the Equipment

1.

Before beginning installation, check the overall condition of the equipment. Remove packing materials, and examine all components for signs of shipping damage. Any shipping damage is the customer's responsibility and should be reported immediately to your freight carrier. Fan is shipped complete with all accessories.

1.1 Parts List

Each CX24P1/CX24P3/CX24PW1/CX24PW3 Fan includes:

1 – Direct Drive Circulation Fan

Each CX24P1G/CX24P3G/CX24PW1G/CX24PW3G

Fan with Guard includes:

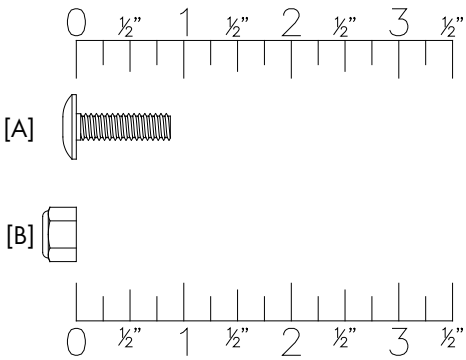
1 – Direct Drive Circulation Fan

1 – Guard, Inlet/Outlet Pair, PWDCTD

1 – Hardware Package as follows:

HP1246 – Fan with Guard

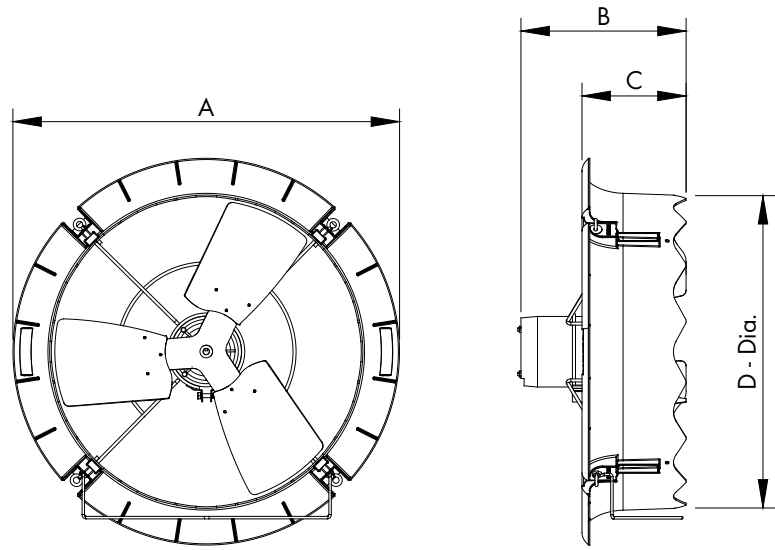
ID	Qty.	Cat. No.	Description
[A]	4	KS0650	1/4"-20 x 7/8" Truss Head Bolt, SS
[B]	8	KN1705	1/4"-20 Hex, Nylock Nut, ZP



1.2 Fan Dimensions

Fan Specifications:

Hertz: 60 50 - 60
Voltage: 115/230VAC or 190 - 208-230/380 - 460VAC
Phase: 1 or 3



CX24 Circulation Fan

CAT. NO.	FAN DIA.	NO. OF BLADES	A	B	C	D - Dia. (O.D.)
CX24	24"	3	30¾"	12⅞"	8¼"	24¾"

Installation Instructions

2.

2.1 Fan Installation

Step 1

For Horizontal Airflow attach chain to 2 of the Eye Bolts on the fan and then hang the fan from truss. *See Figure 1A.* Chain and hanging hardware not provided. If it is desired to pull the fan up out of the way when not in use for cleaning, then attach a cable or rope to the Lift Bracket and use a winch or actuator to pull the fan up. *See Figure 1B.*

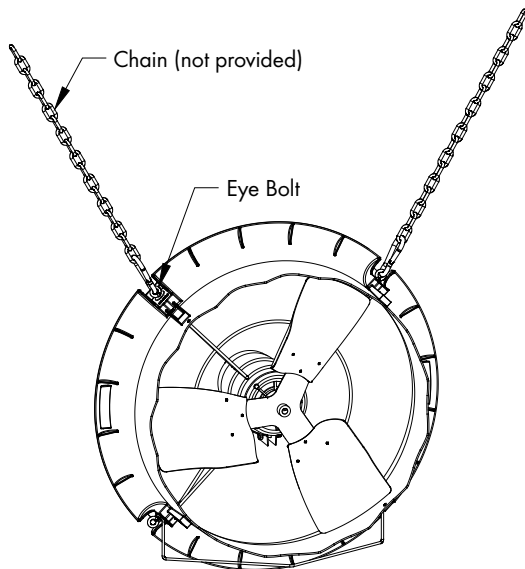


Figure 1A

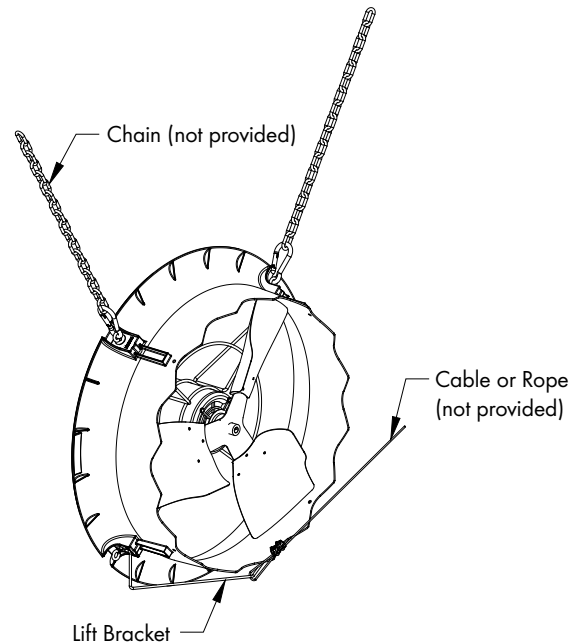


Figure 1B

Step 2

For Vertical Airflow attach chain to 4 of the Eye Bolts on the fan and then hang the fan from trusses. *See Figure 2.* Chain and hanging hardware not provided.

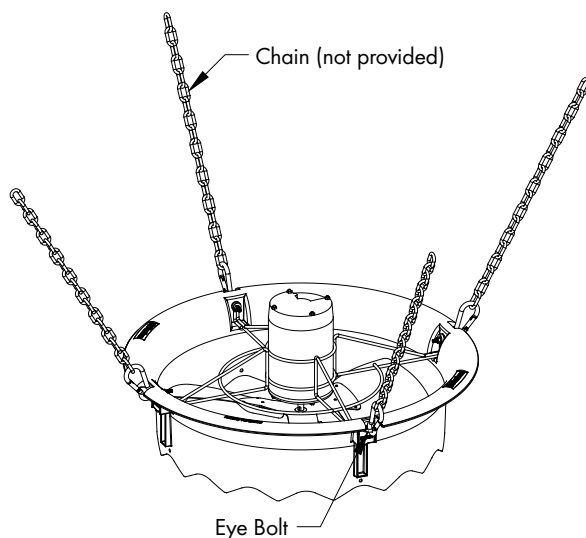


Figure 2

⚠ IMPORTANT

If installing fans near heaters, it is recommended to install the CX24 Fan at a location far enough from heaters that will give a maximum temperature of 150°F. This should be approximately 2-3 ft. from the heater.

2.2 Optional Guard Installation

Step 3

The Inlet Guard is the one with the large inner hole to go over the motor. With the eyelets on the guard pointing into the fan slip the eyelets over the shaft of the Eye Bolts and fasten using (4) Nuts [B].

See Figure 3.

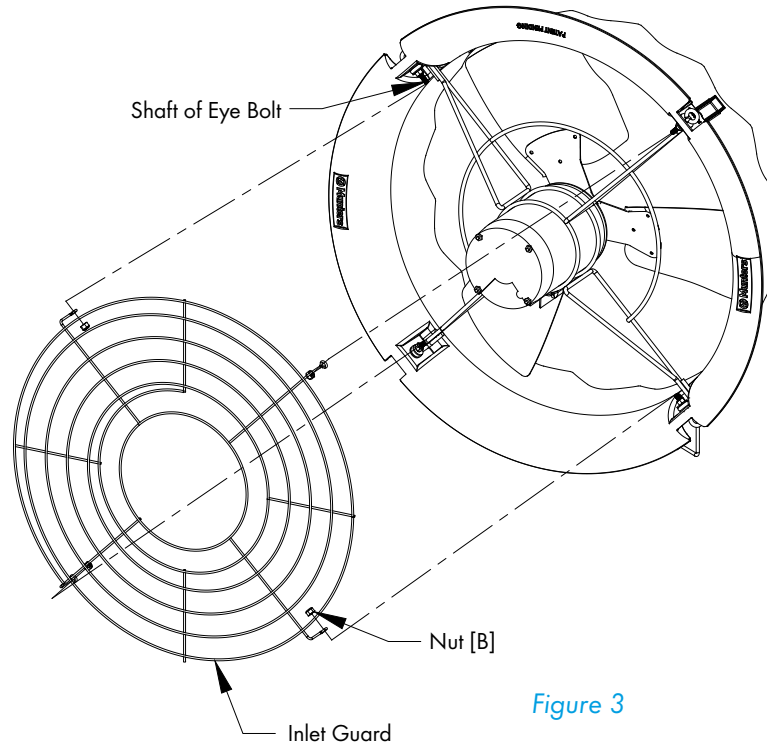


Figure 3

Step 4

The Outlet Guard is the one with the small inner hole. With the eyelets on the guard pointing toward the fan, align the eyelets with the holes in orifice on the outside of the fasten using (4) Bolts [A] and Nuts [B]. The head of the bolt goes on the inside of the orifice and the nut goes on the outside. See Figure 4.

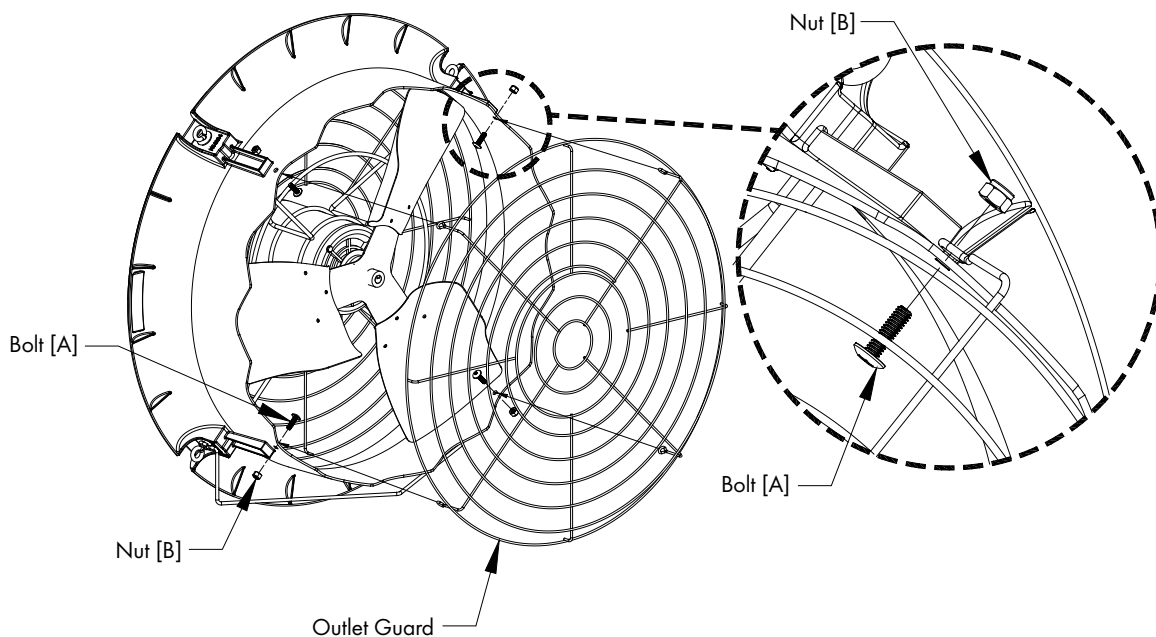


Figure 4

All wiring should be installed in accordance with National, State, and Local electrical codes. Fans used to ventilate livestock buildings or other rooms where continuous air movement is essential should be connected to individual electrical circuits, with a minimum of two circuits per room. For electrical connection requirements, refer to diagram on motor nameplate and to information enclosed with the Munters environmental control to be used. After wiring check for proper motor rotation.

Single Phase Fans: motor overload protection should be provided for each fan. A Circuit Breaker Switch or slow blow motor type fuses must be used, *See Figure 5A. See form QM1400 for proper size.*

Three Phase Fans: motor overload protection should be provided for each fan. A three-pole motor starter or slow blow motor fuses must be used. *See Figure 5B.*

If a frequency drive (inverter) is used, confirm that motors are rated for inverter duty at the voltage used. Shielded power cable between frequency drive and each motor is highly recommended. Installation of line reactors is recommended to reduce voltage spikes and harmonic distortion. Supplemental motor overload protection is also recommended.

NOTE: A safety cut-off switch should be located adjacent to each fan.

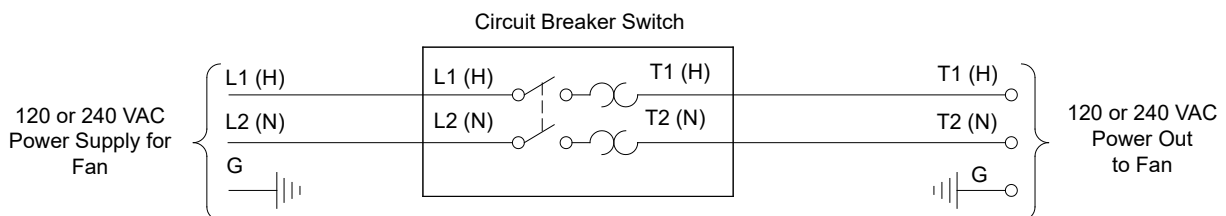


Figure 5A

Single Phase - Motor Overload Protection with Disconnect (SY2000 or Equivalent)

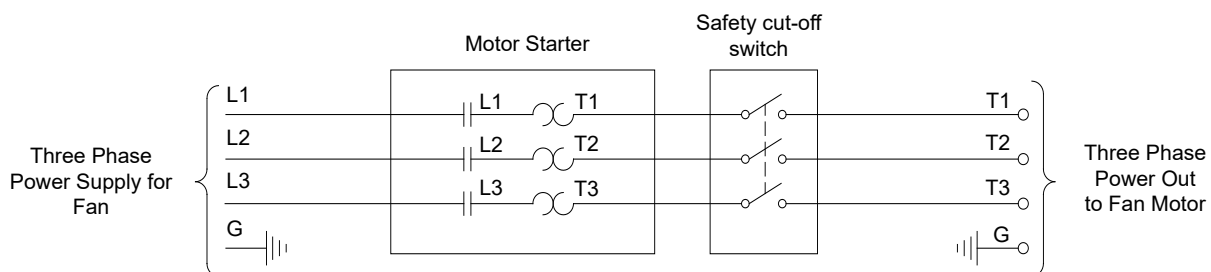


Figure 5B

Three Phase - Motor Overload Protection with Disconnect

KEY:

L1=Line 1
L2=Line 2
L3=Line 3
H=Hot
N=Neutral
G=Ground

NOTE: Information in parenthesis refers to 120 VAC control.

3.1 Recommended Wire Routing:

As the power cable exits the back of motor form a drip loop and then run power cable up along leg of motor mount and "Zip" tie the cable to leg to prevent cable from getting tangled. [See Figure 6](#). Then run the cable out the back of fan to the circuit breaker or control panel.

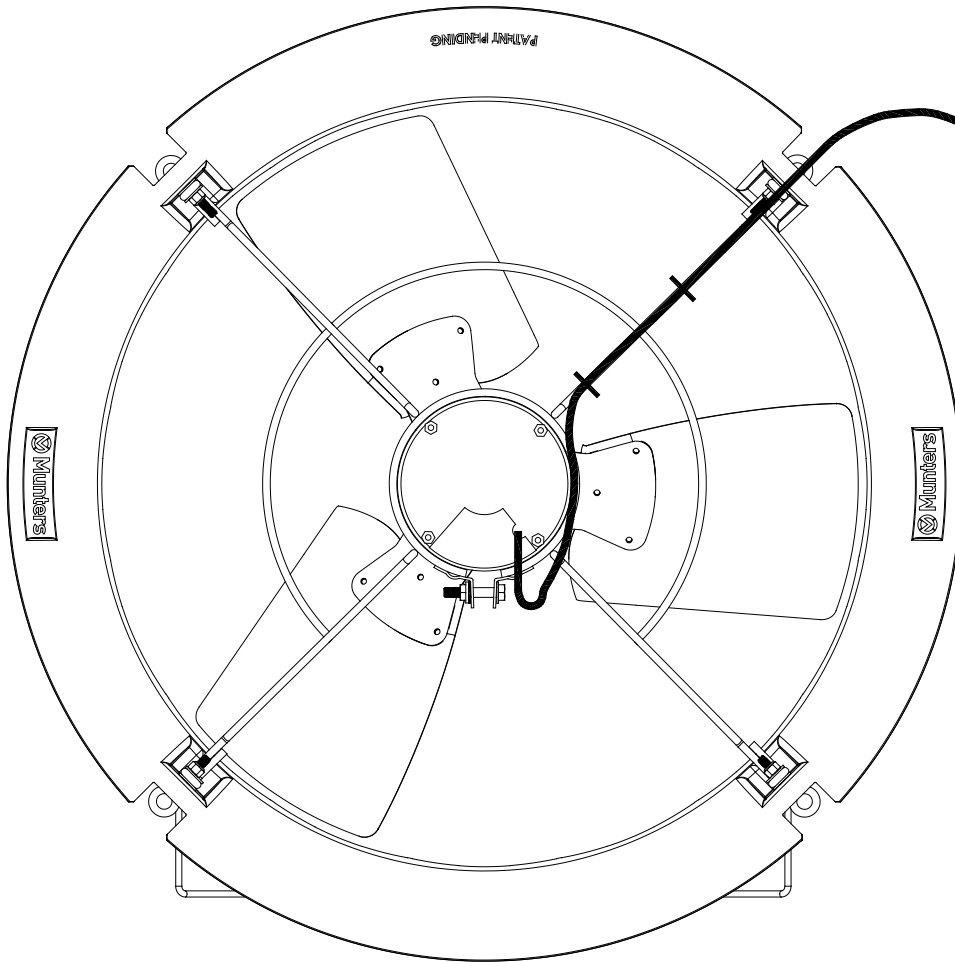


Figure 6

Three Phase Fans:

- 1) The use of a quality frequency drive and the installation of line reactors is recommended to reduce voltage spikes and harmonic distortion.
- 2) Minimum operating frequency of 30 Hz.
- 3) Will require three pole contractors with overload protection (by others).

4.1 Operation

INITIAL START-UP: With electrical power off, verify that the fan propeller turns freely and that all fasteners are secure. Turn on electrical power and confirm that the fan operates smoothly.

ADJUSTMENTS: Set the fan control to the temperature shown on your ventilations system drawing, or to a value which will provide the desired environmental conditions.

Single Phase Fans: When variable speed controls are used, the fan's idle speed will need to be set to the recommended minimum airflow rate. Refer to the procedures included with each control. The table below provides airflow rates at various propeller speeds for fans wired for 240 VAC.



5.1 Maintenance

The following inspection and cleaning procedures should be performed monthly:

- 1) **INSPECT PROPELLER:** Check that propeller is secure on motor shaft and that there are no signs of damage. The blades are of a self-cleaning design and should not require maintenance.
- 2) **CLEAN** regularly for best results:
 - **FAN MOTOR:** Remove any dust accumulation from motor using a brush or cloth. (DO NOT use a pressure washer). A clean motor will run cooler and last longer. At the same time, verify that the motor is secure in its mount.
 - **GUARD:** Clean any dust or feathers from fan guards using a brush. Dirty guards can reduce airflow.
- 3) **CHECK FASTENERS:** For safety, all fasteners should be inspected 1 month after initial operation and yearly thereafter. Tighten any loose connections.
- 4) **INSPECT FAN CONTROL:** With power disconnected, inspect all electrical connections. Wiring should be secure and in good condition. Remove any dust build-up from control case and sensor using a soft brush or cloth. **NEVER CLEAN ELECTRICAL EQUIPMENT WITH A PRESSURE WASHER!**



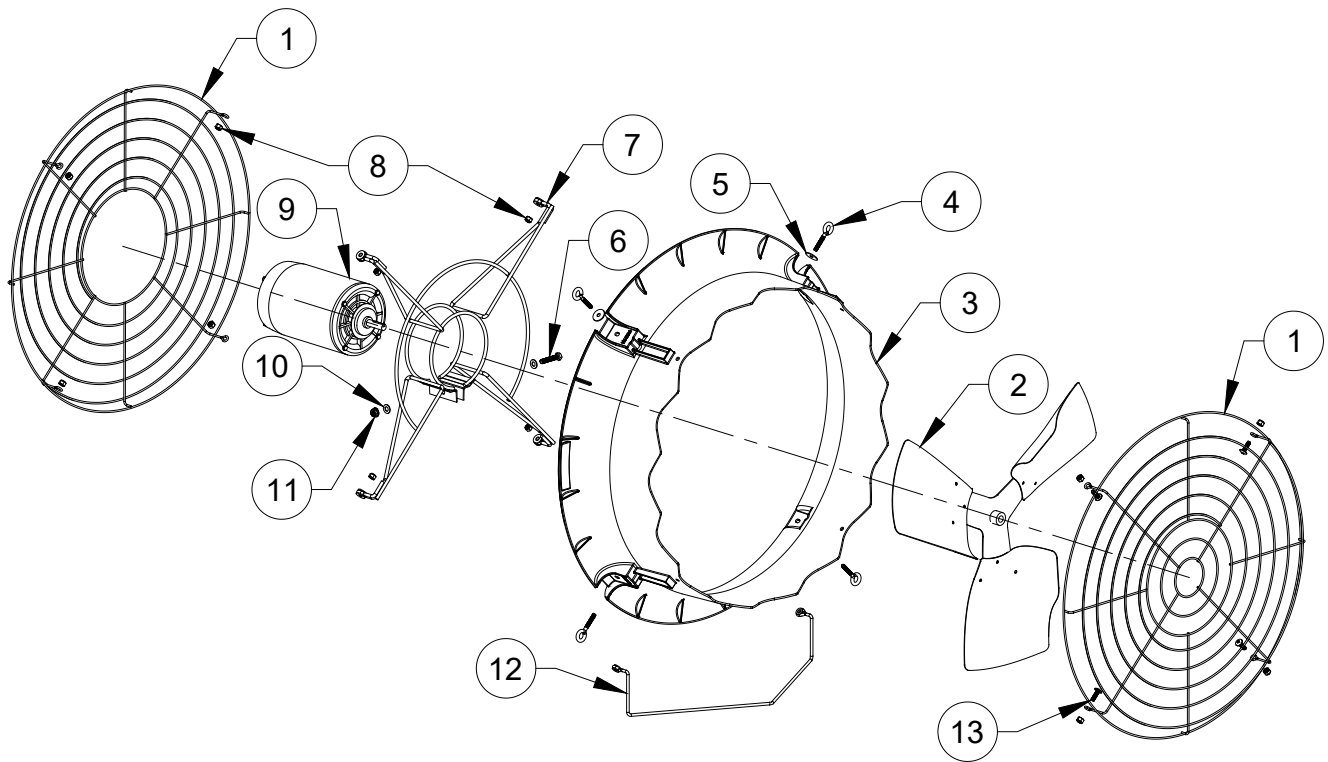
6.1 Troubleshooting



SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Fan Not Operating	<ol style="list-style-type: none"> 1. Fan control set above room temperature 2. Blown fuse or open circuit breaker 3. Propeller blade contacting fan housing 4. Fan control defective 5. Motor defective 	<ol style="list-style-type: none"> 1. Set to a lower temperature 2. Replace fuse or reset breaker 3. Realign motor in fan housing 4. Repair or replace control 5. Repair or replace motor
Fan Operating- Insufficient Airflow	<ol style="list-style-type: none"> 1. Variable speed control improperly adjusted 2. Guard dirty 	<ol style="list-style-type: none"> 1. See Operation, Step 2 for adjustment guidelines 2. Clean guard
Excessive Noise	<ol style="list-style-type: none"> 1. Propeller blade contacting fan housing 2. Motor bearing defective 3. Frequency drive improperly adjusted 	<ol style="list-style-type: none"> 1. Sand fan housing to remove high spot 2. Repair or replace motor bearings 3. See operation, Step 2 for adjustments guidelines
Excessive Vibration	<ol style="list-style-type: none"> 1. Motor loose on mount 2. Propeller damaged 3. Motor shaft bent 	<ol style="list-style-type: none"> 1. Tighten fasteners 2. Replace propeller 3. Repair or replace motor
Fan never turns off	<ol style="list-style-type: none"> 1. Override thermostat set incorrectly 2. Control set for continuous operation 	<ol style="list-style-type: none"> 1. Set to the correct temperature 2. Set speed control correctly

Exploded View

7.



Item	Catalog No.	Description	Qty.
1	FH1624	Guard Inlet/Outlet Pair, PWDR CTD (Guard Kit)	1
2	FP1724	Propeller, 24"DD, 3-Blade, CX24, GZ	1
3	FH4224B	Orifice Panel, 24" CX Fan, PP, BLK	1
	FH4224W	Orifice Panel, 24" CX Fan, PP, WHT	1
4	KS2757	¼"-20 x 2.5" Closed Eye Bolt, SS	4
5	KW3012	¼" x 1" O.D. Flat Washer, SS	2
6	KS1029	⅝"-18 x 1.75" Hex Head Bolt, SS	1
7	FH2524	Motor Mount, 24" CX Fan, PWDR CTD	1
8	KN1705	¼"-20 Nylock Nut, SS (Fan/Guard Kit)	4/8
9	FM1108	24" DD, Motor, ⅓ HP, 1075 RPM, 48 Fr., 1 ph., 115/230V	1
	FM1074	24" DD, Motor, ⅓ HP, 1140 RPM, 48 Fr., 3 ph., 230/460V	
10	KW3004	⅝"-18 Narrow Type-A Flat Washer, SS	2
11	KN0704	⅝"-18 Hex, Serrated Flange Nut, SS	1
12	FH1324	Lift Bracket, 2 Point Conn,CX24 Fan, PWDR CTD	1
13	KS0650	¼"-20 x 7/8" Truss Head Bolt, SS (Guard Kit)	4

'CX' Fans are developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376



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