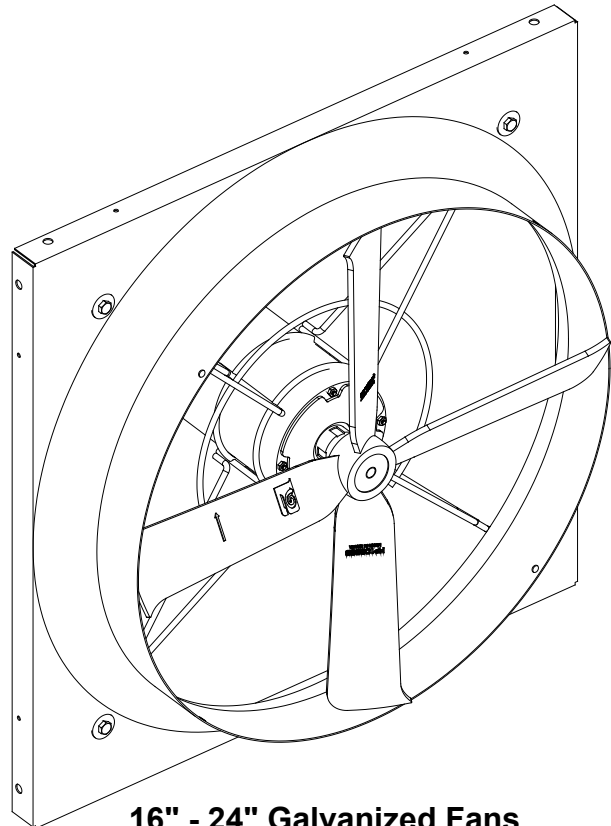
**14" - 24" Fiberglass Fans****16" - 24" Galvanized Fans**

USER'S MANUAL and INSTALLATION GUIDE

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Unpacking the Equipment	3
Fan Dimensions.....	3
Fan Installation	4
Electrical Wiring.....	5
Operation.....	6-7
Maintenance	8
Winterizing Fan.....	8
Troubleshooting.....	9
Exploded View.....	10-11

THANK YOU

Thank you for purchasing a Classic Direct Drive Fan from Munters. 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 fan 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 Aerotech Ventilation System, Munters Corporation office at 1-800-227-2376 or by e-mail at aerotech@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 Aerotech Ventilation Systems, 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.

UNPACKING THE EQUIPMENT

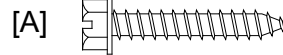
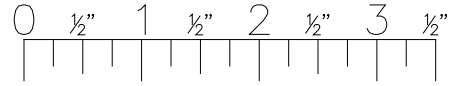
Before beginning installation, check the overall condition of the equipment. Remove packing materials, and examine all components for signs of shipping damage. Any shipping damage is the customer's responsibility and should be reported immediately to the freight carrier.

Each 14" - 24" Fiberglass Fans includes:

- 1 - Direct Drive Fan
- 1 - Hardware Package (HP1076)

HP1076 for 14" - 24" Fiberglass fan

- [A].....8 - #14 x 1.5" Lag Screws, S.S.



Each 16" - 24" Galvanized Fans includes:

- 1 - Hardware Package (HP1008) including:

HP1008 for 14" - 24" Galvanized fan

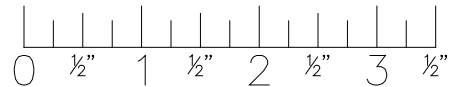
- [B]8 - 1/4"x 1.5" Lag Screws, Z.P.
- [C].....8 - 1/4" Flatwasher



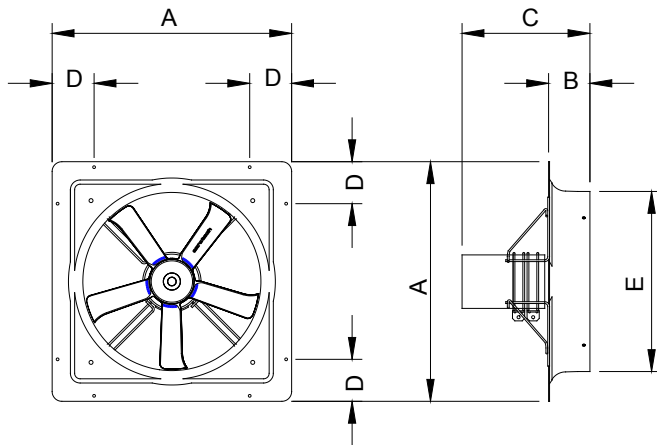
Power: 120/240 VAC

Phase: 1

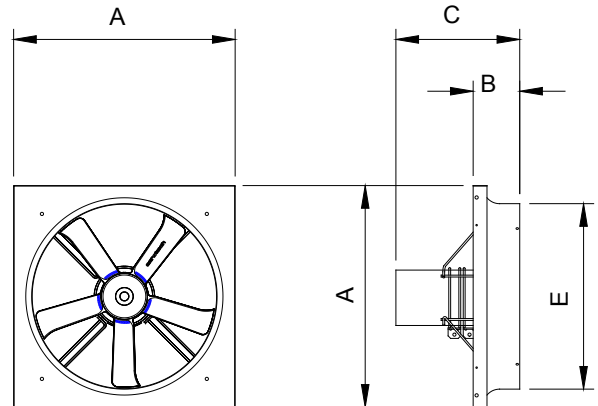
Hertz: 60



FAN DIMENSIONS



14" - 24" Fiberglass Fans



16" - 24" Galvanized Fans

CAT. NO.	FAN DIA.	NO. OF BLADES	A	B	C	D	E	Wall Opening (I.D., framed)
AT14F	14"	7	19 ⁵ / ₈ "	3 ¹ / ₂ "	10 ³ / ₄ "	3 ¹ / ₂ "	14 ¹ / ₂ "	17 ¹ / ₄ " sq.
AT16F	16"	4	22 ⁵ / ₈ "	4 ¹ / ₄ "	11 ¹ / ₈ "	4 ¹ / ₄ "	16 ¹ / ₂ "	20 ¹ / ₄ " sq.
AT16G	16"	4	20"	4 ³ / ₄ "	10 ¹ / ₄ "	4 ³ / ₄ "	16 ¹ / ₂ "	20 ¹ / ₄ " sq.
AT18F	18"	5	24 ⁵ / ₈ "	4 ¹ / ₄ "	12"	4 ¹ / ₄ "	18 ¹ / ₂ "	22 ¹ / ₄ " sq.
AT18G	18"	5	22"	4 ⁵ / ₈ "	11"	4 ⁵ / ₈ "	18 ¹ / ₂ "	22 ¹ / ₄ " sq.
AT24F	24"	4	30 ³ / ₄ "	5 ¹ / ₄ "	12 ¹ / ₈ "	5 ¹ / ₄ "	24 ¹ / ₂ "	28 ¹ / ₄ " sq.
AT24G	24"	4	28"	5 ⁷ / ₈ "	11 ³ / ₈ "	5 ⁷ / ₈ "	24 ¹ / ₂ "	28 ¹ / ₄ " sq.

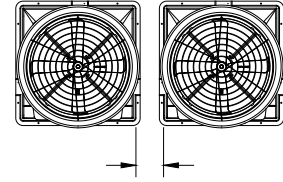
INSTALLATION INSTRUCTIONS

If optional wall housing was purchased, follow the Installation Instructions and Wall Opening Chart included with the housing. Once housing instructions are completed proceed to the Electrical Wiring and Operation Sections in this manual.

If no wall housing was purchased proceed to Step 1.

- 1) Construct the framed opening to correct size according to the chart (page 1) and your fan size. **See Figure 1 & 2.**
- 2) Insert fan into the framed opening from the outside and fasten with (8) #14 x 1.5" Lag Screws [A] or (8) ¼" x 1.5" Lag Screws [B] & washers [C] (provided). Flash and caulk around opening. **See Figure 3.**

Clearance Notes:



Fan with Outlet Guard:
maintain 8" minimum clearance on all sides.

Fan with Discharge Cone:
maintain 12" minimum clearance on all sides

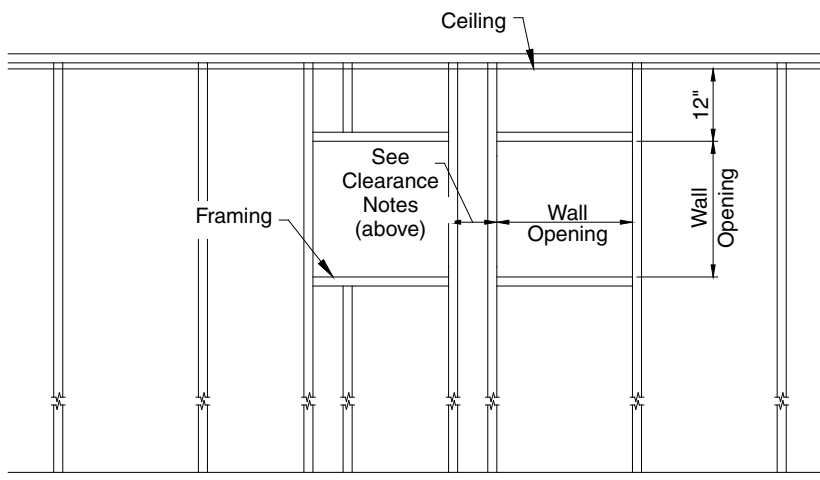


Figure 1

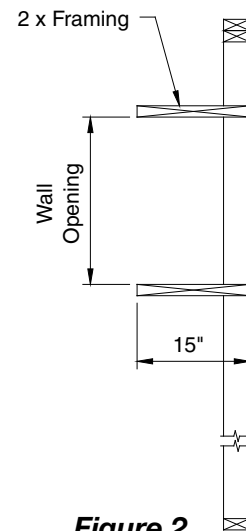


Figure 2

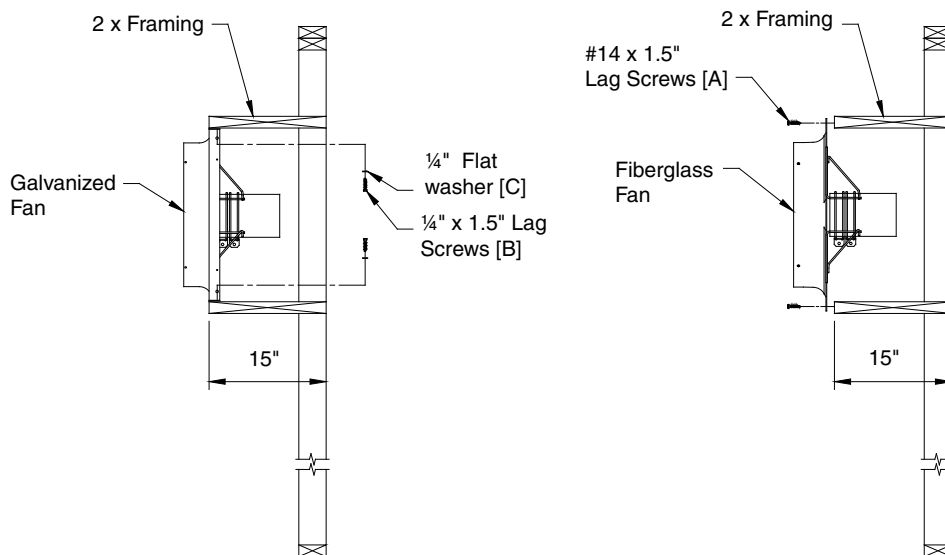
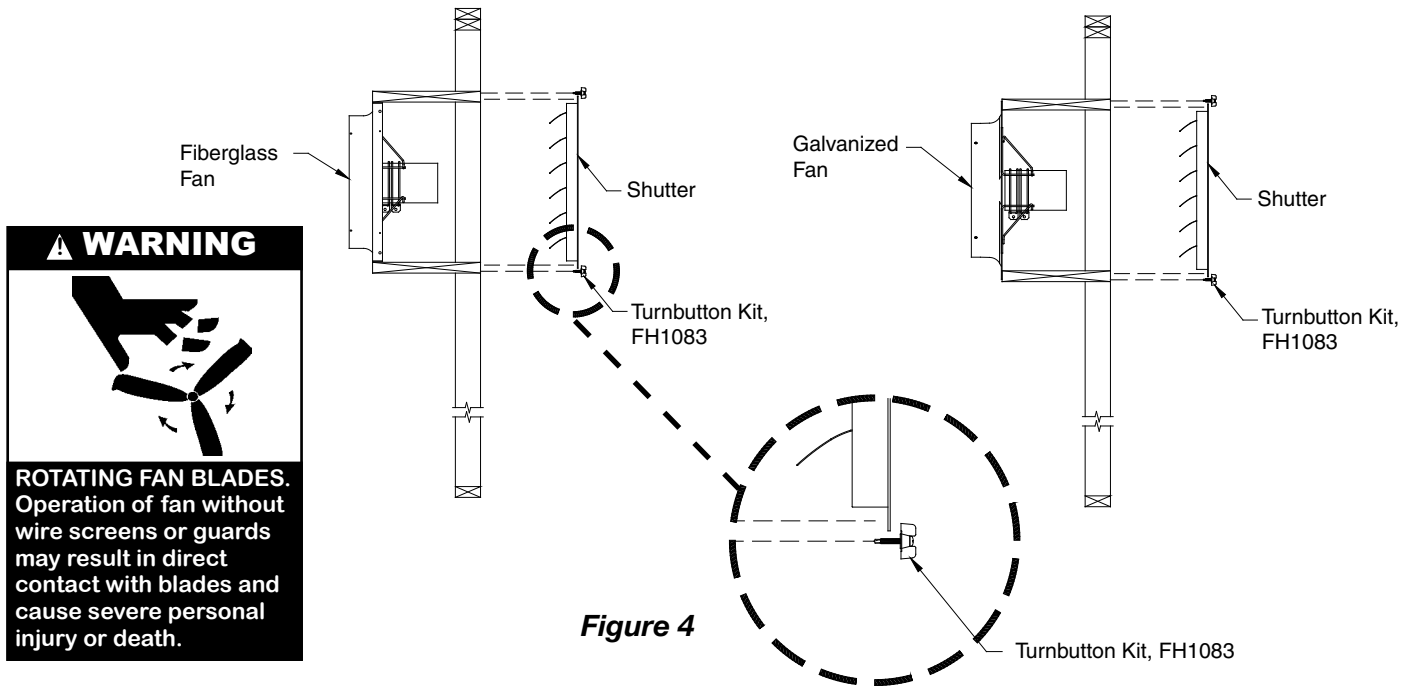


Figure 3

- 3) If a shutter was purchased install into back of framed opening. **See Figure 4.** If the Turnbutton Kit (FH1083) was purchased, install now using hardware provided with kit. **See Figure 4.**
- 4) Outlet of fan comes unguarded, it is recommended that an Aerotech discharge cone with guard, a fan hood with guard or a guard by others is installed on outlet of fan at this time.

Installation is now complete, proceed to Electrical Wiring Section.



ELECTRICAL WIRING



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 Aerotech environmental control to be used.

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 5.** See Aerotech form **QM1400** for proper size. **NOTE:** A safety cut-off switch should be located adjacent to each fan.

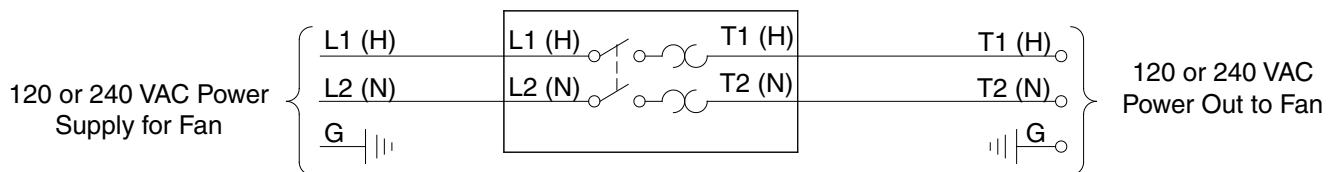


Figure 5
Single Phase - Motor Overload Protection with Disconnect
(SY2000 or Equivalent)

KEY:

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

NOTE: Information in parenthesis refers to 120 VAC control.

OPERATION



- 1) 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.
- 2) ADJUSTMENTS:** Set the fan control to the temperature shown on your Aerotech ventilations system drawing, or to a value which will provide the desired environmental conditions.

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 following table provides airflow rates at various propeller speeds for fans wired for 240 VAC:

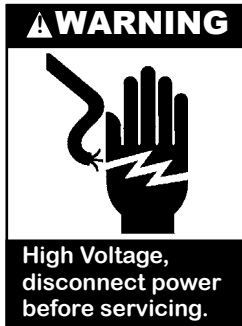
A = Fan with cone & shutter B = Fan with hood & shutter

	CFM	0.02" Static Pressure				0.05" Static Pressure			
		A		B		A		B	
	RPM	VOLTS	RPM	VOLTS	RPM	VOLTS	RPM	VOLTS	
14" Fans	100	—	—	—	—	520	96	520	96
	120	500	95	500	95	600	101	600	101
	150	600	101	600	101	650	107	640	107
	200	620	103	630	103	690	111	700	110
	300	680	107	690	106	810	119	810	118
	400	730	111	750	110	860	123	870	123
	500	780	114	810	114	900	126	920	126
	600	830	118	870	117	940	129	970	130
	800	940	125	980	127	1020	135	1060	136
	1000	1040	132	1080	137	1110	141	1170	144
	1200	1140	139	1220	149	1220	149	1290	152
1600	1390	158	1500	188	1440	169	1540	178	
2000	1650	223	—	—	—	—	—	—	
16" Fans	140	500	100	510	100	610	101	640	101
	170	580	101	590	101	640	103	670	103
	200	630	102	640	102	680	104	700	105
	300	660	104	680	104	750	108	760	108
	400	700	106	730	106	810	112	820	112
	500	740	109	780	109	880	116	890	116
	600	770	111	820	111	940	119	950	119
	800	840	115	910	116	980	124	1020	124
	1000	910	120	1000	120	1030	127	1090	129
	1250	980	125	1070	128	1080	132	1160	135
	1500	1050	131	1140	136	1130	137	1240	141
	1750	1110	136	1230	144	1190	142	1340	148
	2000	1190	142	1330	152	1270	149	1450	155
	2500	1360	160	1580	205	1420	165	1620	208
	3000	1560	198	—	—	1580	207	—	—
3250	1660	227	—	—	1670	228	—	—	

A = Fan with cone & shutter B = Fan with hood & shutter

CFM	0.02" Static Pressure				0.05" Static Pressure				
	RPM	A VOLTS	RPM	B VOLTS	RPM	A VOLTS	RPM	B VOLTS	
18" Fans	300	—	—	—	—	—	540	100	
	400	—	—	—	—	—	580	103	
	500	—	—	500	100	580	103	610	105
	600	560	101	580	102	615	105	650	107
	700	600	102	620	103	640	108	680	110
	800	630	104	650	105	680	110	720	114
	1000	670	107	700	109	730	116	780	119
	1250	720	111	760	114	800	121	850	123
	1500	780	115	820	118	850	124	910	127
	1750	820	119	890	123	910	128	970	131
	2000	890	124	970	128	960	131	1030	135
	2500	1020	133	1120	139	1060	138	1170	146
	3000	1160	143	1310	155	1210	150	1350	162
	3500	1330	158	1480	190	1370	168	1520	202
	4000	1490	193	—	—	1530	204	—	—
4250	1580	213	—	—	1610	221	—	—	
24" Fans	1000	—	—	—	—	—	490	115	
	1250	490	115	500	116	495	116	510	117
	1500	505	116	515	117	505	117	530	120
	1750	515	117	530	120	515	119	560	124
	2000	530	118	550	122	530	121	580	127
	2250	540	119	570	125	550	124	610	131
	2500	560	121	600	128	580	127	640	134
	2750	580	124	630	131	620	130	680	138
	3000	610	128	660	135	650	134	710	142
	3500	670	133	730	144	710	141	770	152
	4000	710	139	780	154	770	150	840	164
	4500	790	150	870	172	830	159	920	182
	5000	860	160	960	198	900	174	1000	214
	5500	940	178	1040	230	980	196	—	—
	6000	1020	205	—	—	1050	225	—	—
6350	1070	226	—	—	—	—	—	—	

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.

- **SHUTTER:** Carefully clean dust from shutter blades and frame so that shutter opens and closes freely. A brush or cloth should be used.

- **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. 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!**



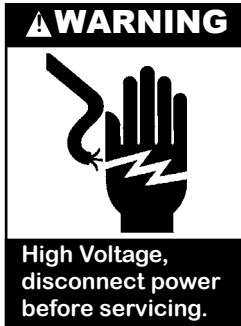
WINTERIZING FAN

In most climates, it is probable that the ventilation system will never need to operate at a total capacity during the colder winter months. Consequently, it is advisable to "winterize" those fans which will not be used in cold weather to avoid unnecessary heat loss and condensation.

To winterize, turn fan control "off". Install the insulated closure panel over the fan intake. If you don't have an insulated closure panel, a piece of rigid insulation material can be used. **Remember the insulation panel must be removed before warmer weather returns.**

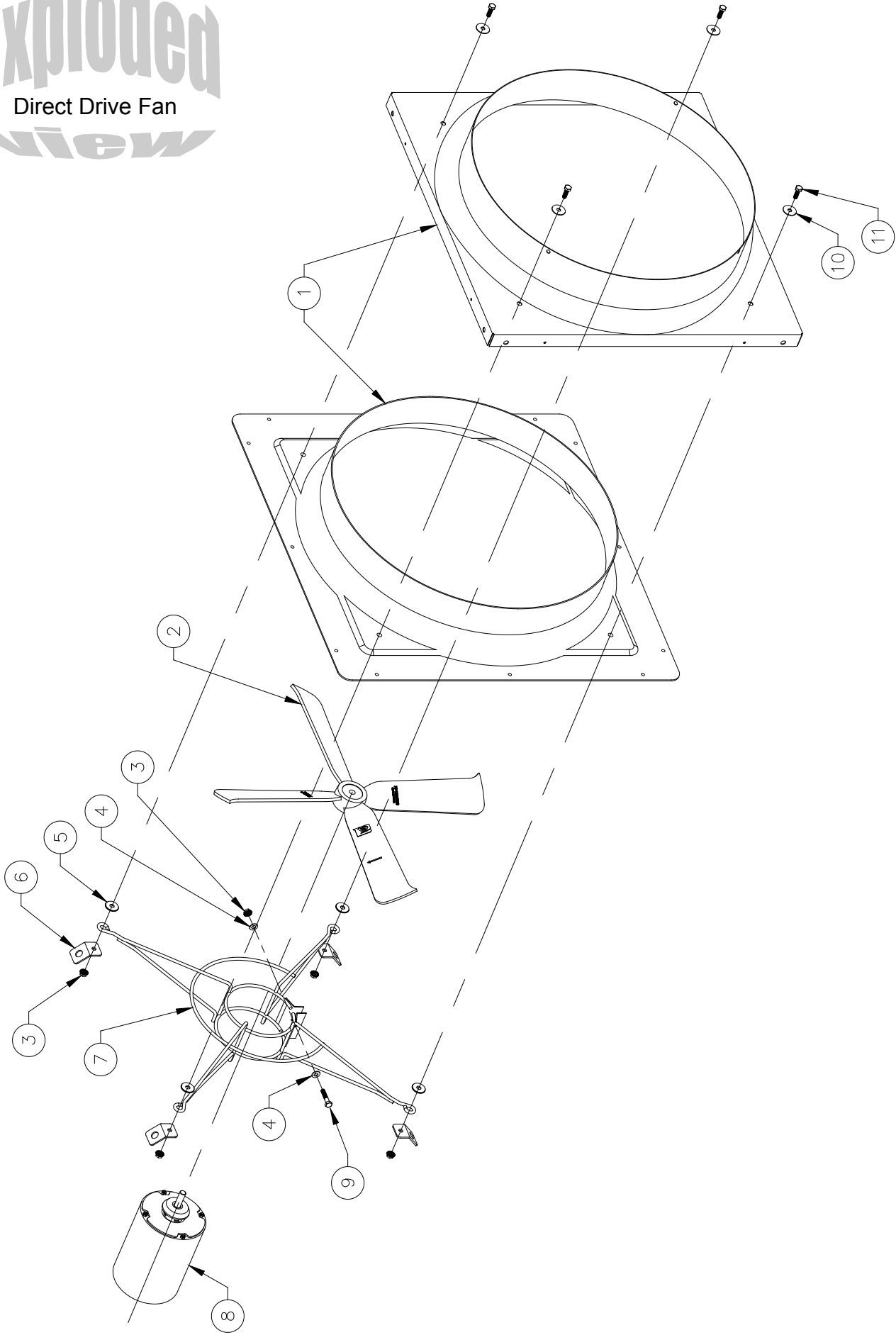
NOTE: At least one single speed fan should be left uncovered and with power available to provide air movement in the event of variable speed control difficulties.

TROUBLE SHOOTING



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 	<p>Set to a lower temperature</p> <p>Replace fuse or reset breaker</p> <p>Realign propeller in fan housing</p> <p>Repair or replace control</p> <p>Repair or replace motor</p>
Fan Operating-Insufficient Airflow	<ol style="list-style-type: none"> 1. Variable speed control improperly adjusted 2. Shutter jammed 3. Guard dirty 	<p>See Operation, Step 2 for adjustment guidelines</p> <p>Clean shutter & fan housing</p> <p>Clean guard</p>
Excessive Fan Noise	<ol style="list-style-type: none"> 1. Variable speed control idle speed set to low 2. Variable speed control defective 3. Propeller blade contacting fan panel 4. Motor bearing defective 	<p>Increase idle speed setting</p> <p>Repair or replace control</p> <p>Realign propeller in fan housing</p> <p>Repair or replace motor</p>
Excessive Fan Vibration	<ol style="list-style-type: none"> 1. Motor loose in mount 2. Propeller damaged 3. Motor shaft bent 	<p>Tighten fasteners</p> <p>Replace propeller</p> <p>Repair or replace motor</p>
Fan never turns off	<ol style="list-style-type: none"> 1. Override thermostat set incorrectly 2. Control set for continuous operation 	<p>Set to the correct temperature</p> <p>Set speed control correctly</p>

exploded Direct Drive Fan view





Catalog No.

Item	Catalog No.					Description	Qty.
	All	14"	16"	18"	24"		
1	---	FH3014	FH3016	FH3018	FH3024	Fiberglass Orifice Panel	1
	---	---	FH3116	FH3118	FH3124	Galvanized Orifice panel	1
2	---	FP1013SS	FP1038SS	FP1008SS	FP1033SS	Aluminum Propeller w/Set screws	1
3	KN0704	---	---	---	---	5/16" Flanged Hex Nut	5
4	KW3004	---	---	---	---	5/16" Flat Washer	2
5	KW3301	---	---	---	---	3/8" I.D. x 1 1/8" O.D. washer w/ rubber seal	4
6	FH1258	---	---	---	---	Fan Support Clip, Aluminum	4
7	---	FH1008	FH1009	FH1009	FH1010	PVC Coated Motor Mount	1
8	---	FM1010	FM1043	FM1009	FM1008	Motor, DD, 120/240	1
9	KS1029	---	---	---	---	5/16" x 1.5" L. Hex Bolt	1
10	KW3011	---	---	---	---	5/16" x 1 1/4" O.D. Flat Washer	4
11	KS1018	---	---	---	---	5/16" x 1" L. Hex Bolt	4

