

# SIS/SIG SERIES

## SIDE INTAKE SUPPLY UNIT / SIDE INTAKE GALVANIZED SUPPLY UNIT



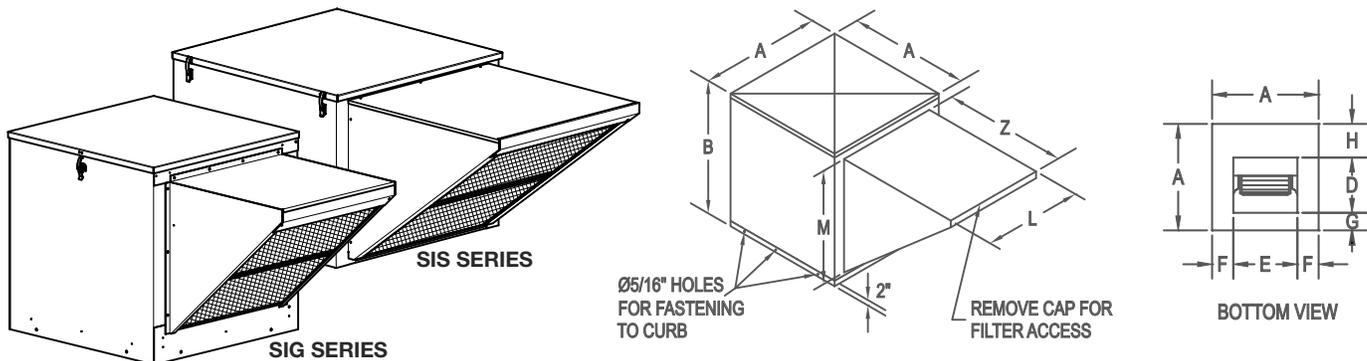
### OPERATION INSTRUCTIONS AND PARTS MANUAL

**SIS SERIES MODELS: SIS-9, SIS-10, SIS-12, SIS-15, SIS-18, SIS-20**  
**SIG SERIES MODEL: SIG-9, SIG-10, SIG-12, SIG-15**

## GENERAL SAFETY

Rotating parts, (pulleys, shafts and belts) on fans should not be exposed. Where these components are not protected by ductwork, cabinets or covers, appropriate guards should be employed to restrict exposure to rotating parts. Access doors should not be opened with the fan operating to avoid foreign objects being drawn into the system. On initial start-up, a careful inspection should be carried out to ensure no foreign material is present which could become airborne in the system.

Read installation and operation instructions carefully before attempting to install, operate or service Canarm/Delhi SIS/SIG Series Blowers. Failure to comply with instructions could result in personal injury and/or property damage. **Retain instructions for future reference.**



MODEL	A	B	D	E	F	G	H	L	M	Z	FILTERS		*INSIDE CABINET	UNIT WEIGHT (LBS) (without motors & drives)
											SIZE	QUANTITY		
<b>SIS MODELS</b>														
SIS-9	24 3/8"	19 3/8"	10 1/4"	11 13/16"	6 9/32"	7 1/16"	7 1/16"	19 1/4"	16 9/16"	21 1/4"	16" x 24" x 1"	1	24"x 24"	70
SIS-10	28 3/8"	21 3/8"	11 3/8"	13 1/8"	7 5/8"	8 1/2"	8 1/2"	20 1/2"	18 9/16"	25 3/4"	15" x 20" x 1"	2	28"x 28"	87
SIS-12	32 3/8"	24 5/8"	13 7/16"	15 5/8"	8 3/8"	9 15/32"	9 15/32"	25 3/8"	21 9/16"	30 3/4"	20" x 25" x 1" & 16" x 25" x 1"	1 & 1	32"x 32"	117
SIS-15	36 3/8"	28 3/8"	15 7/8"	18 5/8"	8 7/8"	8"	12 1/2"	31 3/16"	25 13/16"	33 1/2"	20" x 28 1/2" x 1"	2	36"x 36"	175
SIS-18	36 3/8"	42 1/2"	18 7/8"	21 7/8"	7 1/4"	6 1/4"	11 1/4"	35 5/8"	32 11/16"	40 1/4"	20" x 25" x 1" & 16" x 25" x 1"	2 & 2	36"x 36"	262
SIS-20	44 3/8"	49"	24 3/4"	24 3/4"	9 13/16"	5 3/16"	14 7/16"	38 5/8"	35 9/16"	45 1/2"	20" x 25" x 1"	6	44"x 44"	497
<b>SIG MODELS</b>														
SIG-9	22"	24"	10 1/4"	11 7/8"	5"	3 7/8"	7 7/8"	16"	18 1/8"	19 7/8"	16" x 25" x 1"	1	21 7/8" x 21 7/8"	TBA
SIG-10	22"	24"	11 7/8"	13 1/4"	4 7/16"	3 1/4"	6 7/8"	16"	18 1/8"	19 7/8"	16" x 25" x 1"	1	21 7/8" x 21 7/8"	TBA
SIG-12	32"	32"	13 3/4"	15 7/8"	8 1/16"	4 1/4"	14"	25"	24 5/8"	25"	16" x 25" x 1"	2	31 7/8" x 31 7/8"	TBA
SIG-15	32"	32"	16 1/8"	18 7/8"	6 9/16"	3"	12 7/8"	25"	24 5/8"	25"	16" x 25" x 1"	2	31 7/8" x 31 7/8"	TBA

\* Curb size to be smaller than inside cabinet to allow for flashing and roofing.

\*\* Includes filter section

## BEFORE YOU BEGIN

Inspect unit for damage, report any shipping damage to carrier. Check all fasteners, re-tighten as required. Rotate the blower wheel by hand to ensure free rotation. If rubbing occurs, loosen the set screw(s), re-position the wheel to the shaft center, re-tighten set screws.

## INSTALLATION

Remove hood and filters from inside the cabinet. Caulk top of curb before setting unit in place. (Curb must be smaller than unit "A" dimension). Secure unit to curb through holes located around the bottom of the unit. Tighten wheel set screw.

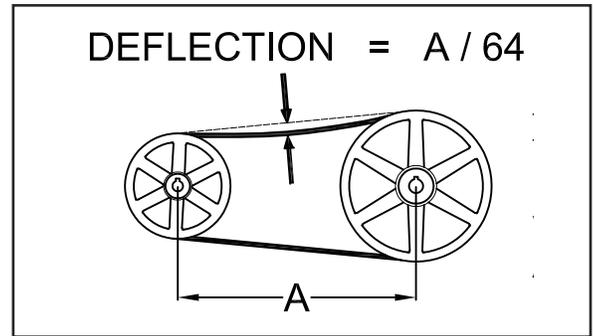
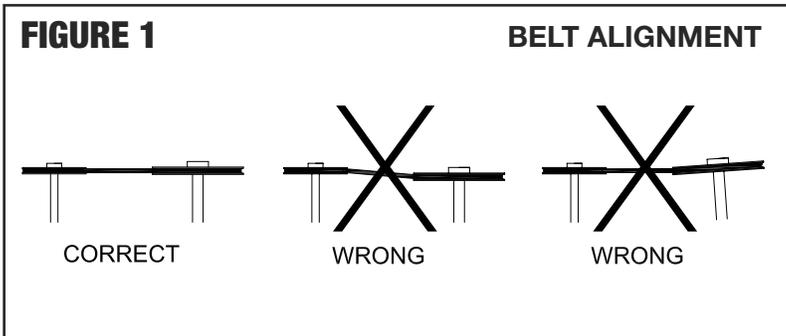
## MOTOR, PULLEYS & BELTS (See Table next page)

1. Mount the blower pulley on the blower shaft and tighten the set screw securely on the key of the shaft.
2. Mount the motor pulley on the motor shaft. Leave some clearance between the pulley and the motor end bell. Tighten the set screws on the key of the motor shaft.
3. Install the motor on the motor platform using the hardware provided.
4. With the platform in its minimum position, install the V-belt within the pulley grooves. Position the motor on the motor platform to ensure proper pulley alignment (see **Figure 1**) and secure to the motor platform. (A straight edge across the face of the driven pulley should be parallel to the belt once proper alignment has been achieved).

**Note: Adjustments in the variable speed pulley require pulley re-alignment.**

# MOTOR, PULLEYS & BELTS (See Table below)

- Pivot the motor platform to tension the V-belt and lock in place using the 2 bolts on both sides of the blower. (Ideal belt tension is the lowest tension at which the belt will not slip during start up.) As shown in illustration to right, a proper deflection of 1/64 of the belt span is desired for belt tension.



BLOWER MODEL	3 1/4 CAST IRON BLOWER PULLEY - DIAMETER & RPM RANGE							BELT LENGTH BASED ON MOTOR FRAME
	5" 824-1125 RPM	6" 680-929 RPM	7" 580-792 RPM	8" 505-690 RPM	9" 447-611 RPM	10" 401-548 RPM	12" 533-455 RPM	
SIS-9 / SIG-9	4L37	4L39	4L41	4L42	4L44	4L45	--	48 FRAME
SIS-10 / SIG-10	4L39	4L41	4L42	4L44	4L46	4L47	--	
SIS-12 / SIG-12	4L42	4L44	4L46	4L47	4L49	4.51	--	
SIS-15 / SIG-15	--	--	--	--	4L55	4L57	4L60	56 FRAME
SIS-18 / SIG-18	--	--	--	--	4L59	4L60	4L64	

Motor Pulley Cast Iron	Blower Pulley Cast Iron	RPM Range	SIS-9 SIG-9	SIS-10 SIG-10	SIS-12 SIG-12	SIS-15 SIG-15	SIS-18 SIG-18	SIS-20	BELT LENGTH BASED ON MOTOR FRAME
IVL44 O.D. 4.15"	HB47T	1630 - 1232	B37	B39	B43	--	--	--	48 FRAME (ADD 1" FOR 56 FRAME) MODELS SIS-15, SIG-15 & SIS-18, SIG-18 143, 145T FRAME
	HB57T	1329 - 1005	B39	B41	B44	--	--	--	
	HB67T	1121 - 848	B40	B43	B46	--	--	--	
	HB77T	969 - 733	B42	B44	B48	B52	B56	--	
	HB87T	854 - 645	B43	B46	B49	B54	B57	--	
	HB97T	763 - 577	B46	B48	B51	B56	B59	--	
	HB107T	690 - 521	B47	B50	B53	B58	B61	--	
	HB117T	629 - 476	B49	B51	B55	B59	B63	--	
	HB127T	578 - 437	B51	B53	B55	B61	B64	--	
	HB137T	535 - 404	B53	B55	B58	B63	B66	--	
8325 O.D. 3.25"	HB157T	466 - 352	B57	B59	B62	--	B70	--	143T & 145T FRAME
	HB187T	390 - 295	B64	B65	B68	--	--	--	
	HB77T	756 - 568	--	--	--	B51	B54	--	
	HB87T	667 - 500	--	--	--	B53	B56	--	
	HB97T	596 - 447	--	--	--	B55	B58	--	
	HB107T	538 - 404	--	--	--	B56	B60	--	
	HB117T	491 - 368	--	--	--	B58	B61	--	
8400 O.D. 4.15"	HB127T	452 - 339	--	--	--	B60	B63	--	
	HB137T	418 - 314	--	--	--	B62	B65	--	
	HB157T	364 - 372	--	--	--	--	B69	--	
	HB87T	854 - 645	--	--	--	--	--	B79	
	HB97T	763 - 577	--	--	--	--	--	B81	
	HB107T	690 - 521	--	--	--	--	--	B83	
	HB117T	629 - 476	--	--	--	--	--	B84	
	HB127T	578 - 437	--	--	--	--	--	B86	
8550 O.D. 5.35"	HB137T	535 - 404	--	--	--	--	--	B88	
	HB157T	466 - 352	--	--	--	--	--	B91	
	HB187T	390 - 295	--	--	--	--	--	B97	
	HB117T	828 - 686	--	--	--	--	--	B86	
	HB127T	756 - 618	--	--	--	--	--	B88	
DB600 O.D. 6"	HB137T	697 - 575	--	--	--	--	--	B90	
	HB157T	616 - 509	--	--	--	--	--	B93	
	<b>DOUBLE GROOVE</b>								
	12.4 X 2B	830 - 700	--	--	--	--	--	B90	213, 215T FRAME
	13.6 X 2B	759 - 631	--	--	--	--	--	B92	

FOR FRACTIONAL HP APPLICATIONS "4L" BELTS MAY BE SUBSTITUTED BY ADDING 2" TO THE SPECIFIED "B" BELTS. Eg. B50 BELT = 4L52



## WARNING

**EXCESSIVE BELT TENSION IS THE MOST FREQUENT CAUSE OF BEARING WEAR AND RESULTING NOISE. PROPER BELT TENSION IS CRITICAL FOR QUIET EFFICIENT OPERATION.**

Ideal belt tension is the lowest value under which belt slip will not occur at peak load conditions.

## NFPA 96 TYPICAL INSTALLATION

Typical configuration shall be a SIS/SIG air supply unit, and an ALX spun aluminum roof exhauster. ALX roof exhauster should have a base hinge and a grease collector. BIRM utility blower is available for high static pressure applications.

## INSTALLATION REQUIREMENT

As shown in **Figure 3**:

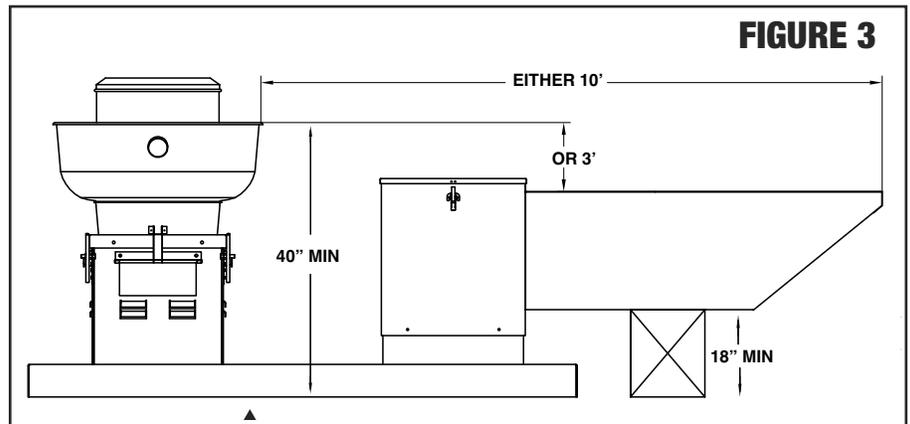
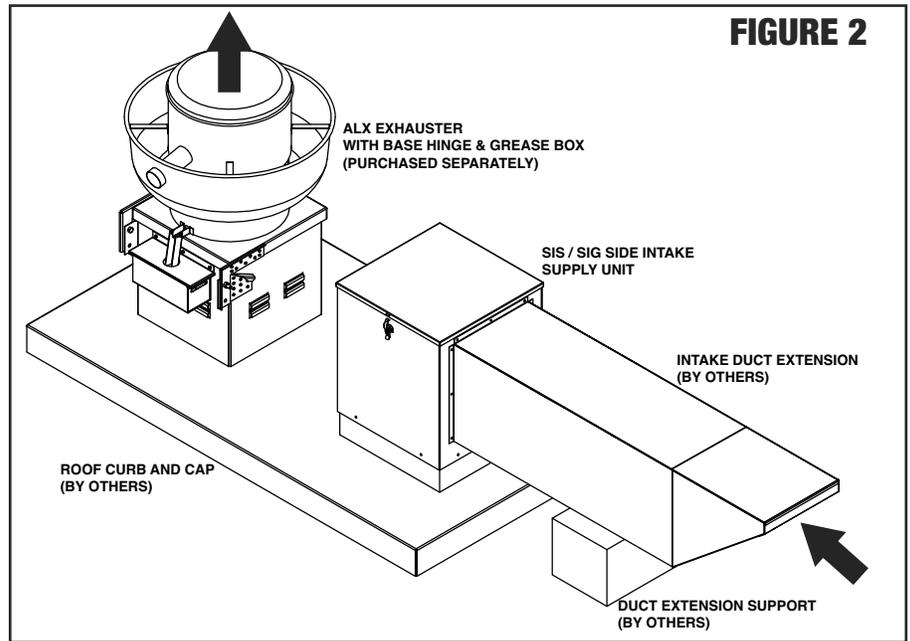
- The bottom of the exhaust fan must be 18 inches away from the roof surface.
- The outlet of the exhaust fan must be 40 inches away from the roof surface minimum.

AND

- The inlet plane must be 10 feet away from the outlet plane horizontally.

OR

- The inlet plane must be 3 feet away from the outlet plane vertically.



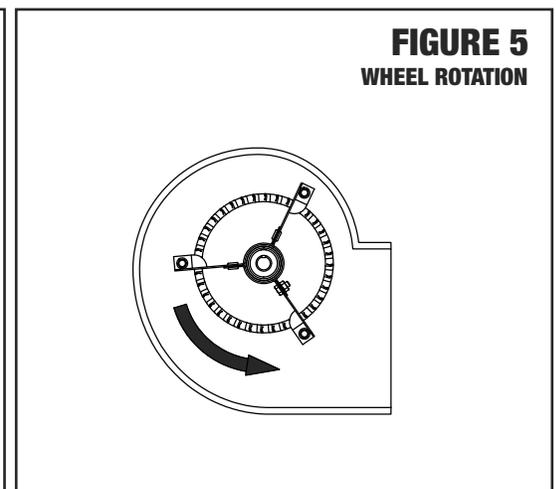
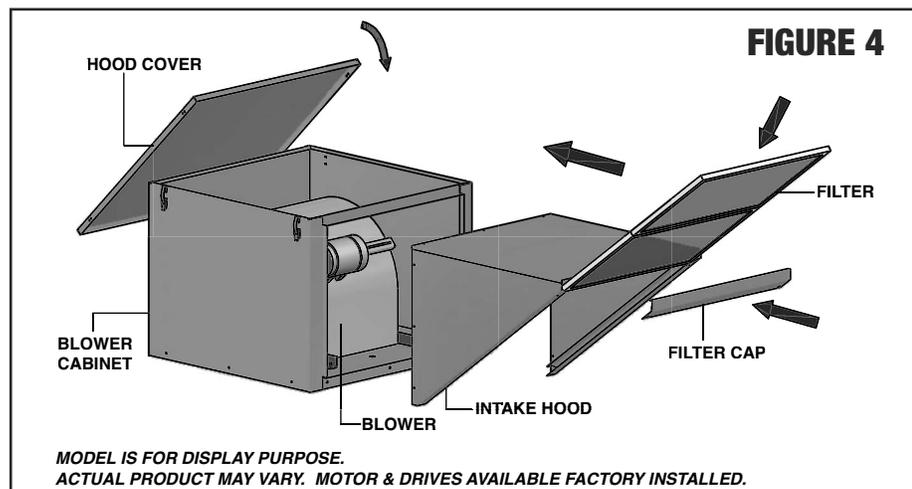
## HOOD AND FILTER INSTALLATION

(Models SIS/SIG-9 to SIS/SIG-15 & SIS-18)

Attach duct section when required (by others) to the SIS/SIG inlet flange. Drill 1/8" hole through duct and inlet flange and secure with metal screws provided. Slide the hood (less filters) over the inlet flange and secure with the provided sheet metal screws.

HOOD/DUCT OVERLAP SHOULD NOT EXCEED 1".

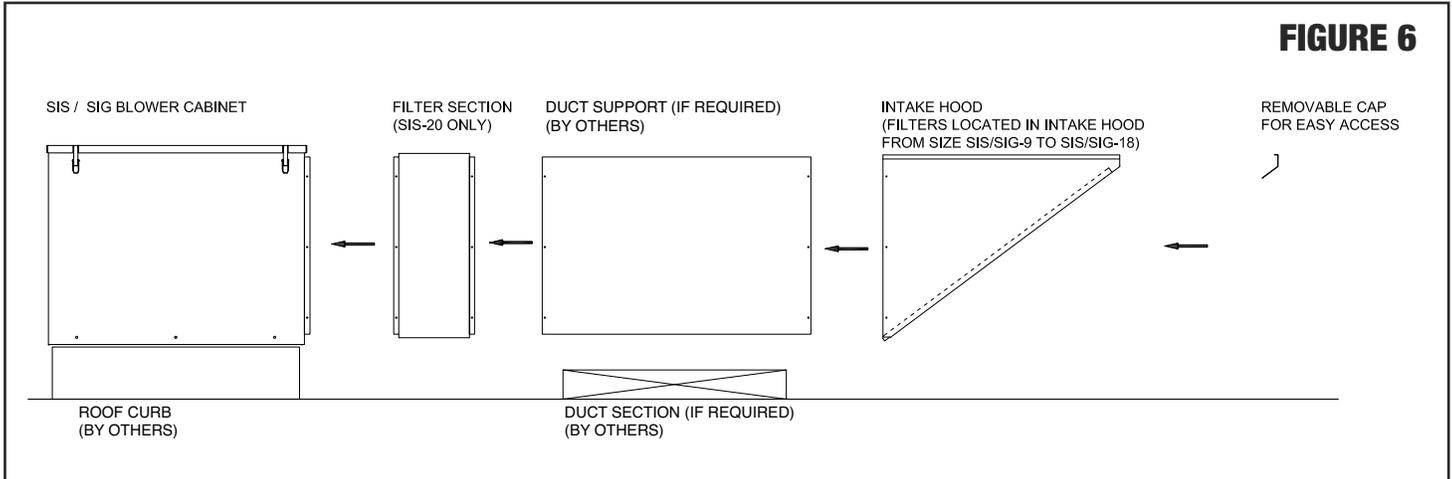
Remove hood cap and slide filter(s) into "U" channels located on the inner sides of the hood. Replace cap.



## FILTER INSTALLATION

(Models SIS-20)

As shown in **Figure 6**, attach filter to SIS inlet flange. Drill 1/8" diameter holes through SIS inlet flange using clearance holes on SIS filter section flange as a guide and secure using the provided sheet metal screws. For duct extension and hood installation, follow instructions for other models on previous page.



## ELECTRICAL



### WARNING

ENSURE POWER SUPPLY IS DISCONNECTED & LOCKED OUT PRIOR TO MAKING ELECTRICAL CONNECTIONS.

Before connecting the motor to the electrical supply, check the electrical characteristics and wiring instructions as indicated on the motor nameplate or inside the conduit box cover to ensure proper voltage and phase. Complete electrical connections as indicated.



### WARNING

A GROUND WIRE MUST BE CONNECTED FROM THE MOTOR HOUSING TO A SUITABLE ELECTRICAL GROUND.

## OPERATION

1. Complete the electrical connections, energize the unit momentarily and ensure proper wheel rotation. (see **Figure 5**).
2. Apply full power.
3. With all ducts attached, the access doors in place and the air system in full operation, measure the motor current and ensure that it is less than the rated full load motor amperage as indicated on the motor nameplate.

## MAINTENANCE



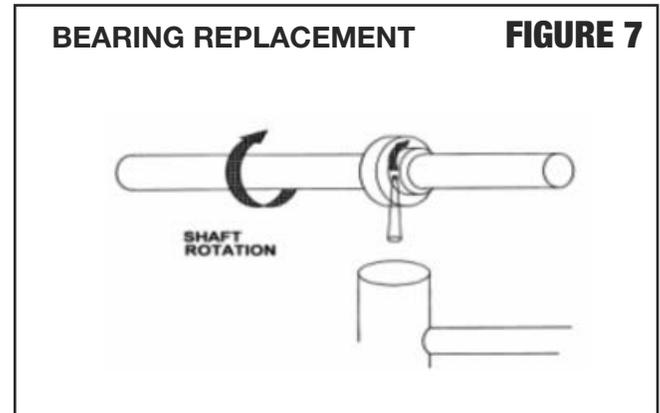
### WARNING

ENSURE POWER SUPPLY IS DISCONNECTED & LOCKED OUT PRIOR TO MAKING ELECTRICAL CONNECTIONS.

1. Inspect and tighten all bearing collar and wheel set screws after the first 50 to 100 hours of operation and periodically thereafter.
2. Follow motor manufacturer's instructions for motor lubrication. Remove any excess lubrication.
3. Check the drives.
  - a. Tighten set screws on pulleys, wheel and bearing locking collars.
  - b. Check belt tension and alignment.
  - c. Replace cracked or worn belts.
4. Blower bearings are permanently lubricated and require no further lubrication.
5. Inspect V-belts for wear and proper tension. If it is necessary to replace one belt on a multiple belt drive, replace all the belts with a matched set. Do not use belt dressing.

## MAINTENANCE (Continued)

6. Clean the blower wheel periodically. Material build up on the blades can cause wheel imbalance which may result in wheel or bearing failure.
7. To reinstall replacement ball bearings press the locking collar against the inner ring of the bearing and turn in the direction of the shaft rotation until engaged. Insert a drift pin into the pin hole and tap lightly to set. Tighten set screw on locking collar firmly (see **Figure 7**).
8. Should further service to the blower be necessary, please contact customer service.



## WARRANTY

Canarm Ltd. Air Moving Products are guaranteed for a period of one year against manufacturing defects in material and workmanship when operating under normal conditions. Liability is limited to the replacement of defective parts. Labour and transportation costs are not included.



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