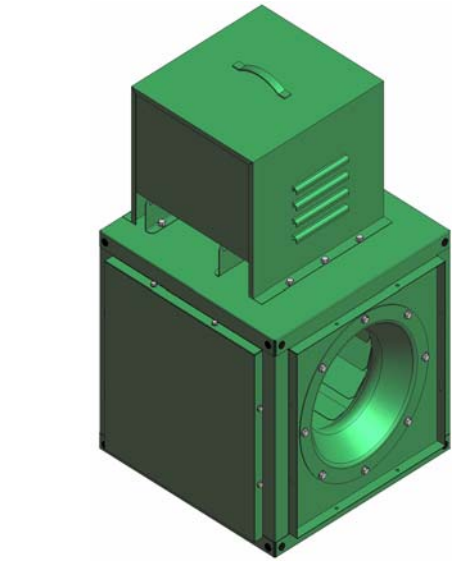
BELT DRIVE SQUARE INLINE BLOWERS

OPERATION INSTRUCTIONS AND PARTS MANUAL

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 never be opened with the fan running to avoid the sucking in foreign objects 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. Failure to comply with instructions could result in personal injury and/or property damage. Retain instructions for future reference.



Size	Max.H.P.	Shaft Dia.	Weight
10	1	¾ in.	62
12	1-1/2	¾ in.	73
13	1-1/2	¾ in.	85
15	2	¾ in.	95
16	3	¾ in.	123
18	3	1 in.	140
20	3	1 in.	165
22	5	1 in.	211
24	7-1/2	1-3/16 in.	241
27	7-1/2	1-3/16 in.	280
All shafts are keywayed			

General

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 establish clearance, re-tighten set screws.

Installation (Fig. 1)

The (4) angle brackets provided allow for base or suspension mounting

Suspension Mounting

For suspension mounting, install the (4) angle iron mounting brackets in the 4 upper corners (front & rear or both sides) using the hardware provided, secure the unit to 4 customer provided suspension rods.

Base Mounting

For base mounting, install the (4) angle iron mounting brackets in the 4 lower corners (front & rear or both sides) and secure to customer supplied base.

Vibration Isolation (not included)

Recommended (spring or rubber) for both suspension or base mount

Suspension Mount
Install 4 supplied angle iron mounting brackets on upper cabinet front & rear or sides (illustrated)

Customer supplied suspension rods (4)

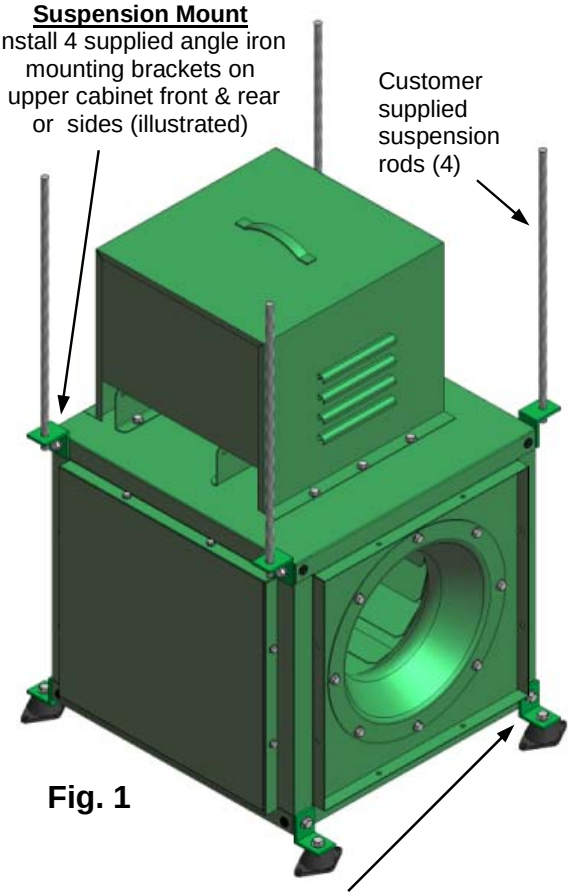


Fig. 1

Base Mount
Install 4 supplied angle iron mounting on Cabinet bottom front & rear (illustrated) or both sides.

Motor, Pulleys & Belts

1. Select the appropriate drive set (motor, sheaves & belts) from the drive table (page 3) to obtain the blower RPM that will deliver the design performance (CFM & SP).

2. Remove the access panel from the drive compartment to expose the blower shaft. Mount the blower sheave on the shaft end and tighten the setscrew securely.

3. Remove the motor compartment cover to expose the motor mounting platform. Secure the motor to the platform, mount the adjustable motor pulley to the shaft end, align with the blower pulley using a straight edge (see Fig. 2) and tighten the setscrew to secure the pulley to the motor shaft.

4. Install the belt(s) and raise the end of the pivoting motor platform to tension the belt and secure the platform in place with the positioning screws located on both sides of the platform.

DO NOT OVER TENSION

Belt Tension & Alignment

Fig. 2

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

Belt Alignment

Correct Wrong Wrong

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. After electrical connections are completed, energize the unit momentarily and ensure proper wheel rotation.
2. Apply full power.
3. With the air system in full operation, all ducts attached and both access doors in place, measure the motor current and ensure that it is less than the rated full load motor amperage as indicated on the motor nameplate.

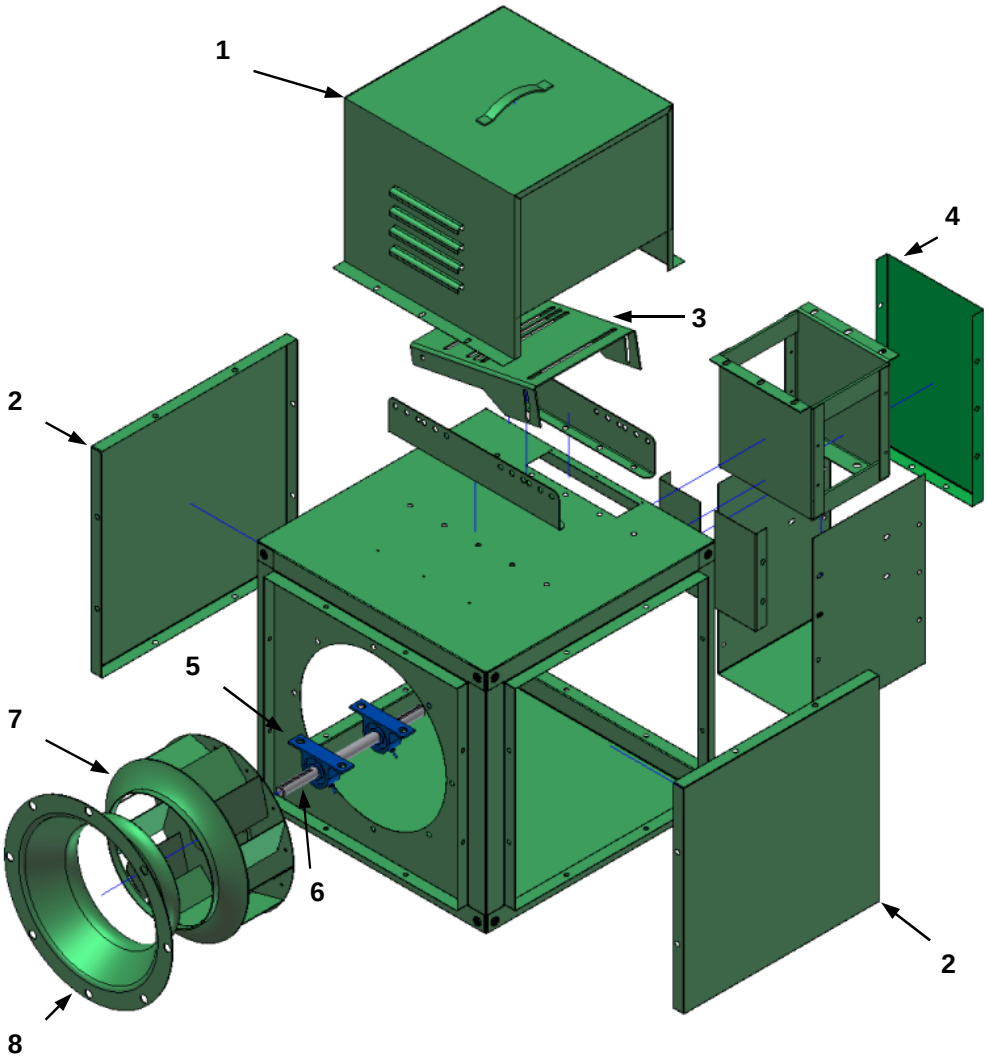
DRIVES			10		12		13		15		16			18		20		22		24			27		
Based on 1725 RPM Motor			MOTOR FRAME																						
Motor	Blower	RPM		56/143T		56/143T		56/143T		56/143T		56/143T	182T	56/143T	182T	56/143T	182T	56/143T	182T	56/143T	182T	213T	56/143T	182T	213T
Pulley	Pulley	Range	48	/145T	48	/145T	48	/145T	48	/145T	48	/145T	/184T	/145T	/184T	/145T	/184T	/145T	/184T	/145T	/184T	/215T	/145T	/184T	/215T
1VL34	AL104	335-512	-	-	-	-	-	-	-	-	-	-	-	-	-	4L67	-	4L75	-	-	-	-	-	-	-
	AL94	373-570	-	-	-	-	-	-	4L58	-	-	-	-	-	-	4L66	-	4L74	-	-	-	-	-	-	-
3/4 HP	AL84	421-643	-	-	-	-	-	-	4L57	-	-	-	-	4L61	-	4L65	-	4L73	-	-	-	-	-	-	-
MAX.	AL74	483-738	-	-	-	-	4L52	-	4L55	-	4L55	-	-	4L59	-	4L63	-	4L71	-	-	-	-	-	-	-
	AL64	567-865	-	-	4L47	-	4L50	-	4L53	-	4L53	-	-	4L58	-	4L61	-	-	-	-	-	-	-	-	-
	AL51	686-1047	4L41	4L42	4L45	-	4L48	-	4L51	-	4L52	-	-	4L56	-	4L59	-	-	-	-	-	-	-	-	-
	AK41	886-1352	4L40	4L40	4L44	-	4L47	-	4L50	4L50	4L50	4L51	-	-	-	-	-	-	-	-	-	-	-	-	-
	AK30	1171-1787	4L38	4L39	4L42	4L43	4L45	4L46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1VL34	BK110H	328-500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4L86	-	-
	BK100H	364-556	-	-	-	-	-	-	4L59	-	-	-	-	-	-	4L67	-	4L75	-	4L80	-	-	4L84	-	-
	BK90H	410-625	-	-	-	-	-	-	4L57	-	-	-	-	4L61	-	4L65	-	4L73	-	4L79	-	-	-	-	-
	BK80H	468-715	-	-	-	-	4L52	-	4L55	-	4L55	-	-	4L60	-	4L63	-	4L71	-	-	-	-	-	-	-
	BK70H	546-834	-	-	4L48	-	4L50	-	4L53	-	4L54	-	-	4L58	-	4L61	-	4L70	-	-	-	-	-	-	-
	BK60H	656-1001	4L42	4L43	4L46	-	4L49	-	4L52	-	4L52	-	-	B55	-	B58	-	-	-	-	-	-	-	-	-
	BK50H	819-1251	4L40	4L41	4L44	-	4L47	-	4L50	-	4L50	-	-	B53	-	B56	-	-	-	-	-	-	-	-	-
	BK40H	1024-1563	4L39	4L40	4L43	-	4L46	-	4L49	-	-	-	-	B52	-	B55	-	-	-	-	-	-	-	-	-
1VL44	AL104	483-656	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AL94	550-747	-	-	-	-	-	-	4L60	-	-	-	-	-	-	4L68	-	4L76	-	-	-	-	-	-	-
3/4 HP	AL84	621-843	-	-	-	-	4L55	-	4L58	-	-	-	-	4L62	-	4L66	-	-	-	-	-	-	-	-	-
MAX.	AL74	712-967	-	-	4L50	-	4L53	-	4L56	-	4L56	-	-	4L61	-	4L64	-	-	-	-	-	-	-	-	-
	AL64	836-1134	4L44	4L45	4L48	-	4L51	-	4L54	-	4L55	-	-	4L59	-	-	-	-	-	-	-	-	-	-	-
	AL51	1010-1371	4L43	4L44	4L47	-	4L50	-	4L53	4L53	-	4L54	-	-	-	-	-	-	-	-	-	-	-	-	-
	AK41	1305-1772	4L41	4L42	4L45	4L46	4L48	4L49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AK30	1725-2341	4L40	4L40	-	4L44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1VL44	BK110H	483-656	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B82	-	-	B85	-	-
	BK100H	537-728	-	-	-	-	-	-	4L60	-	-	-	-	-	-	4L68	-	B74	-	B80	-	-	B84	-	-
	BK90H	604-819	-	-	-	-	4L55	-	4L58	-	-	-	-	4L63	-	4L66	-	B73	-	B78	-	-	B82	-	-
	BK80H	690-936	4L47	4L47	4L51	-	4L53	-	4L56	-	4L57	-	-	4L61	-	4L64	-	B71	-	B76	-	-	B80	-	-
	BK70H	805-1093	4L45	4L46	4L49	-	4L52	-	4L55	-	4L55	-	-	B58	-	B61	-	B69	-	-	-	-	-	-	-
	BK60H	966-1311	4L43	4L44	4L47	-	4L50	-	4L53	-	-	B52	-	B56	-	B59	-	B68	-	-	-	-	-	-	-
	BK50H	1208-1639	4L41	4L42	4L45	-	4L48	B48	-	B51	-	B51	-	B54	-	-	-	-	-	-	-	-	-	-	-
	BK40H	1509-2048	4L40	4L41	-	4L45	-	B46	-	B49	-	B50	-	-	-	-	-	-	-	-	-	-	-	-	-
1VP44	BK100H	569-752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B85	-
	BK90H	637-842	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	B83	-
	BK80H	723-956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		B78	-	-	B82	-
	BK70H	836-1105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B71		B76	-	-	B80	-
	BK60H	990-1310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B61	-	B70		B75	-	-	-	-
	BK50H	1215-1607	-	-	-	-	-	-	-	-	-	-	-	-	B56	-	-	-	-		-	-	-	-	-
	BK40H	1485-1965	-	-	-	-	-	-	-	-	-	-	B52	-	-	-	-	-	-	-	-	-	-	-	-
1VP71	BK80H	1306-1553	-	4L51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BK70H	1524-1811	-	4L49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BK60H	1829-2174	-	4L48	-	B50	-	B53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BK50H	2286-2717	-	B45	-	B49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BK40H	2588-3163	-	B44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2VP62	2B86	983-1183	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B87
	2B74	1142-1375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B82	-	-	-

Note: 4L Belts, AL and AK pulleys are rated to 3/4 HP maximum.

MAINTENANCE

Ensure power supply is disconnected & locked out prior to making performing maintenance

1. Inspect and tighten all bearing 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. Drives: A - Check belt tension and alignment, replace cracked or worn belts. If it is necessary to replace one belt on a multiple belt drive, replace all the belts with a matched set.
   B - Under normal conditions, no re-lubrication is the rule. The bearing lubricant cavity is 1/3-1/2 filled as shipped from the factory. Never lubricate new bearings.
4. Clean the blower wheel periodically. Material build up on the blades can cause wheel imbalance which may result in wheel or bearing failure.



Parts List

1 Motor cover
2 Side access panel
3 Motor mounting platform
4 Drive compartment access cover
5 Bearings
6 Shaft
7 Wheel
8 Inlet cone

Warranty

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.