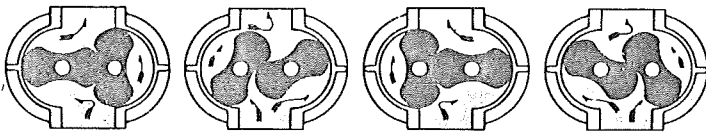


SPECIFICATIONS

Roots RAI Rotary Positive Blowers

FRAMES 33 thru 820

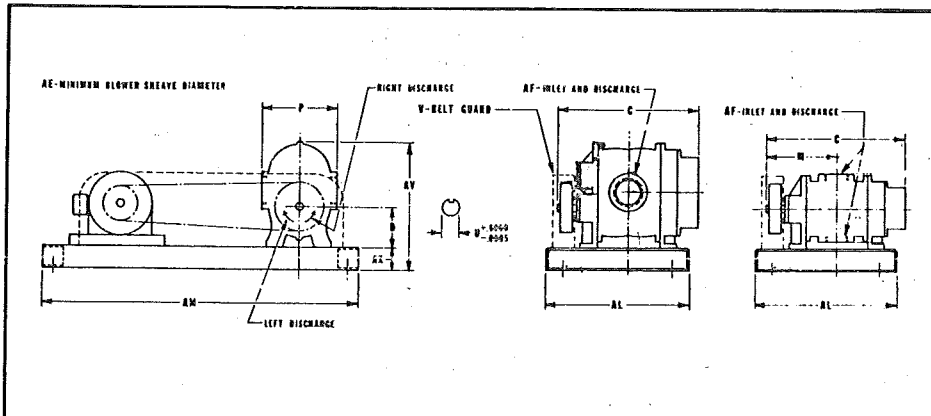
OPERATING PRINCIPLE



Two figure eight lobe impellers mounted on parallel shafts rotate in opposite directions. As each impeller passes the blower inlet, it traps a definite volume of air and carries it around the case to the blower outlet, where the air is discharged. With constant speed operation, the displaced volume is essentially the same regardless of pressure, temperature or barometric pressure.

Timing gears control the relative position of the impellers to each other and maintain small but definite clearances. This allows operation without lubrication being required inside air casing.

OUTLINE DRAWING & DIMENSIONAL TABLE



BASIC BLOWER DESCRIPTION

RAI blowers are standard duty rotary blowers available in either vertical or horizontal construction for easy adaptability to almost any installation. Its compact, sturdy design is engineered for continuous duty with few service interruptions when it is operated in accordance with speed and pressure ratings.

The basic model consists of a cast iron casing, allow steel gears, cast iron involute impellers, ball bearings, splash lube on gear end, and pressure lube on drive end. Horizontal or vertical construction. After standard tests, the unit is painted with protective paint, and boxed or placed on skids. Maximum gear speed is 3,000 FPM.

Available accessories include driver, relief valve, inlet and discharge silencer, inlet filter, check valve, extended base, V-belt drive or flexible coupling, and drive guards.

SIZE	MOTOR FRAME	C	C'	D	M	P	U	KEYWAY	AF	AL	AM	AV	AX	V BELT PKG. WGT.
33	56-213T	15.31	15.06	5.00	6.44	8.62	.6562	.188x.094	2.5NPT	26.00	41.00	15.56	2.75	198
36	143T-213T	17.69	17.44	5.00	7.63	9.00	.6562	.188x.094	4NPT	26.00	41.00	15.56	2.75	208
44	143T-213T	17.88	16.37	6.25	7.31	12.26	7.812	.188x.094	3NPT	26.00	41.00	17.81	2.75	254
47	143T-215T	21.13	19.63	6.25	8.94	9.76	7.812	.188x.094	4NPT	26.00	41.00	17.81	2.75	274
53	143T-254T	19.31	17.25	6.75	8.13	13.26	9.687	250x.125	3NPT	31.00	50.75	21.63	3.75	357
55	143T-254T	20.44	18.31	6.75	8.69	13.26	9.687	250x.125	4NPT	31.00	50.75	21.63	3.75	382
59	145T-254T	24.93	22.81	6.75	10.93	13.13	9.687	250x.125	6FLG	31.00	50.75	21.63	3.75	412
65	184T-256T	24.25	22.38	8.50	11.00	16.62	1.2500	250x.125	4NPT	31.00	50.75	25.13	3.75	648
67	184T-256T	26.75	24.88	8.50	12.25	13.00	1.2500	250x.125	5NPT	31.00	50.75	25.13	3.75	688
610	184T-284T	29.25	27.38	8.50	13.50	14.76	1.2500	250x.125	6FLG	31.00	60.00	25.13	3.75	728
615	182T-284T	34.25	32.36	8.50	16.00	13.26	1.2500	250x.125	8FLG	31.00	60.00	25.13	3.75	808
74	213T-324T	23.38	23.50	10.25	10.88	20.26	1.4375	.375x.188	4NPT	31.00	60.00	29.13	3.75	853
76	184T-324T	24.88	25.00	10.25	11.63	20.26	1.4375	.375x.188	5NPT	31.00	60.00	29.13	3.75	878
710	184T-324T	28.88	29.00	10.25	13.63	18.26	1.4375	.375x.188	8FLG	31.00	60.00	29.13	3.75	913
717	184T-324T	35.88	36.00	10.25	17.13	16.50	1.4375	.375x.188	10FLG	40.00	64.00	29.13	3.75	1038
86	256T-326T	32.37	31.44	11.00	15.75	21.50	1.625	.375x.188	5NPT	34.00	70.00	31.88	3.75	1211
88	254T-326T	34.37	33.44	11.00	16.75	19.00	1.625	.375x.188	6FLG	34.00	70.00	31.88	3.75	1256
812	254T-324T	38.37	37.44	11.00	18.75	19.00	1.625	.375x.188	8FLG	34.00	70.00	31.88	3.75	1391
820	184T-326T	46.37	45.44	11.00	22.75	19.00	1.625	.375x.188	10FLG	41.00	70.00	31.88	3.75	1591

- NOTES: 1. PACKAGE WEIGHT IS WITH LARGEST MOTOR FRAME SIZE APPLICABLE AND IS IN POUNDS.
 2. ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
 3. ALL DIMENSIONS IN INCHES.

PERFORMANCE TABLE

Frame Size	Speed RPM	2 PSI		4 PSI		6 PSI		8 PSI		10 PSI		VACUUM		
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	MAX.	CFM	BHP
33	1750	80	1.3	69	2.2	60	3.1					12"	142	5.8
	3300	176	2.3	164	4.1	156	5.8						158	6.2
	3550	191	2.5	180	4.4	171	6.3							
36	1750	133	1.8									7"	110	2.9
	3300	291	3.5										268	5.5
	3550	317	3.7										289	5.8
44	1750	118	1.7	103	3.0	92	4.4					10"	133	4.8
	2300	167	2.2	152	4.0	140	5.8						182	6.0
	2850	215	2.8	200	5.0	189	7.2							
47	1750	216	2.8									7"	182	4.5
	2300	302	3.7										269	6.0
	2850	390	4.6										357	7.4
53	1160	123	1.7	110	3.0	100	4.4	92	5.7			12"	175	6.7
	1750	201	2.5	188	4.6	178	6.6	170	8.6	163	10.6		236	8.5
	2300	273	3.4	261	6.0	251	8.6	243	11.3	235	13.9			
55	1160	158	2.1	142	3.8	129	5.5					12"		
	1750	259	3.1	243	5.7	230	8.2						304	10.8
	2300	352	4.1	336	7.5	324	10.9							
59	1160	301	3.6									7"	270	6.0
	1750	492	5.5										454	9.1
	2300	669	7.2										632	11.9
65	1160	214	2.7	197	4.9	184	7.2	173	9.4	164	11.6	16"		
	1750	344	4.1	327	7.5	314	10.8	303	14.2	294	17.5			
	1900	377	4.5	360	8.1	346	11.6	336	15.2	326	18.9		299	15.1
67	1160	321	3.8	296	7.2	276	10.5					12"	246	10.3
	1750	516	5.8	490	10.8	471	15.8						441	15.6
	1900	565	6.3	540	11.7	520	17.2						490	16.9
610	1160	428	4.9	394	9.4	367	13.9					10"	352	11.4
	1750	688	7.5	654	14.2	627	20.9						612	17.2
	1900	754	8.1	719	15.4	694	22.7						678	18.7
615	1160	642	7.2									7"	585	12.0
	1750	1032	10.8										970	18.0
	1900	1130	11.7										1070	19.6

Frame Size	Speed RPM	2 PSI		4 PSI		6 PSI		8 PSI		10 PSI		13 PSI		VACUUM		
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	MAX.	CFM	BHP
74	860	222	2.8	206	5.0	194	7.3	183	9.6	174	11.9	162	15.3	16"		
	1160	314	3.7	297	6.8	285	9.9	274	11.0	265	16.0	253	20.7		418	19.2
	1750	493	5.6	477	10.3	464	14.9	454	19.5	445	24.2	432	31.2			
76	860	296	3.5	275	6.6	257	9.7	244	12.6	232	15.8			16"		
	1160	418	4.7	396	8.8	379	13.0	366	17.0	354	21.2				557	25.2
	1750	657	7.1	635	13.3	618	19.5	604	25.7	593	31.9					
710	860	494	5.5	458	10.6	430	15.8							12"		
	1160	696	7.5	660	14.3	632	21.2								989	31.3
	1750	1095	11.3	1058	21.6	1030	31.9									
717	860	840	9.1											7"	765	15.1
	1160	1182	12.3												1110	20.6
	1750	1860	18.5												1790	31.0
86	860	347	4.1	323	7.6	296	11.2	290	14.6	264	18.2	245	23.4	16"		
	1160	487	5.5	463	10.3	436	15.1	430	19.7	404	24.5	385	31.6		499	24.3
	1450	622	6.9	599	12.8	572	18.8	555	24.7	540	30.6	521	39.4			
88	860	462	5.3	430	10.0	407	14.7	387	19.3	368	24.1			16"		
	1160	649	7.1	618	13.4	594	19.8	574	26.1	555	32.4				687	32.0
	1450	830	8.9	799	16.8	775	24.7	754	32.6	736	40.5					
812	860	692	7.6	646	14.6	609	21.7							12"		
	1160	973	10.3	927	19.7	890	29.2								1107	35.9
	1450	1245	12.9	1200	24.7	1160	36.5									
820	860	1154	12.3	1072	24.3									8"		
	1160	1620	16.6	1540	32.4										1503	31.8
	1450	2070	20.7	2000	40.5										1955	39.7

Notes: 1. Ratings based on inlet air at standard temperature 68° F, ambient pressure 14.7 PSIA and specific gravity of 1.0.

2. All specifications subject to change without notice.



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