

TC Ventco

DOUBLE WIDTH, DOUBLE INLET AIRFOIL FAN

Type VAF, VAF-2



Double Width Double Inlet Airfoil Fans

Twin City Fan Companies Ltd. is dedicated to making TC Ventco the premier brand of commercial, OEM and light industrial fans. Twin City Fan and Blower has been an industry leader in manufacturing heavy duty fans for the commercial and industrial markets for over 30 years. TC Ventco products include forward curved, backward inclined, airfoil fan assemblies and component parts to manufacturers and distributors.

Centrally located manufacturing and a stock program complete a winning combination of efficient service and variety in fan selections for the HVAC industry. Fan assemblies with wheels ranging in size from 11" to 40" in diameter are offered in 12 different package designs. The fans are sized for air movement from 200 to 40,000 CFM.



Model: VAF

- Airfoil blade design
- Available in single and double fan configurations
- Wheel diameters 11" to 40"
- Airflow to 85,000 CFM
- Static Pressure to 13" w.g.

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Models

Model: VAF Class L

- Wheel sizes 11" through 22"
- One wheel, welded steel construction, powder coated
- Mounting feet
- Solid Shaft
- Two isolated ball bearings attached directly to the fan housing with a three prong mount on fan sizes 6" to 12" and a four prong mount on sizes 14" to 28"



Model: VAF Class R

- Wheel sizes 10" through 28"
- One wheel, welded steel construction, powder coated
- Steel rectangular side frames, powder coated
- Solid shaft
- Two isolated ball bearings attached directly to the fan housing with a three or four prong mount

Models: VAF Class K, K2

- Wheel sizes:
Class K 11" through 40"
Class K2 20" through 40"
- One wheel, welded steel construction, powder coated
- Welded mild steel angle side frames, powder coated
- Solid shaft
- Two ball bearings in a pillow block construction. Bearings and bearing support get heavier duty with each class.



Models: VAF-2 Class K, K2

- Wheel Sizes:
Class K 11" through 40"
Class K2 11" through 40"
- Two wheels, welded steel construction, powder coated
- Single solid shaft on sizes 11" to 25"
Twin shafts joined with a coupling on sizes 28" to 40"
- Three pillow block ball bearings on sizes 11" to 25"
- Four pillow block ball or roller bearings on sizes 28" to 40"

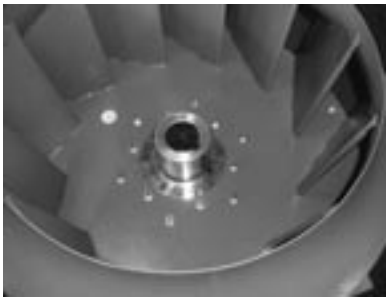
Construction Features

Wheel construction

Wheel Sizes 11" through 40"

Double width, double inlet wheels, are constructed of steel airfoil blades welded to a center plate and a contoured rim. There are eleven blades on each side of the center plate. The blades are uniquely designed for each wheel size to optimize on quiet, efficient fan performance.

The wheels are powder coated for a durable construction that will maintain its rated performance. All wheels are statically and dynamically balanced to ensure maximum operating performance.



Bearings

Class L and R

Deep groove, self aligning ball bearings are permanently lubricated and sealed. The bearings are mounted inside a rubber isolator and attached directly to the fan housing with a three or four prong mount. Maximum air temperature for these bearings is 185°F. Minimum air temperature is -4°F.



Hubs

Hubs secure the fan wheel to the shaft. Heavy duty steel hubs are used on wheel sizes from 11" through 22" in diameter. These hubs are milled to a smooth finish at the base and center of the hub. Heavy duty aluminum hubs are used on wheel sizes from 25" through 40" in diameter.

The hubs are bolted onto the center disk of the wheels. Each fan wheel has been carefully designed with hubs that provide stable fan performance and a long operating life at a competitive price.



Class K and K2

Deep groove, self aligning ball or roller bearings are mounted in a single piece pillow block housing. The bearing can be lubricated and have an average L50 bearing life of 200,000 hours. The bearings are mounted on a sturdy angle iron base and welded to the frame. Maximum air temperature for these bearings is 212°F. Minimum air temperature is -4°F.



Construction Features

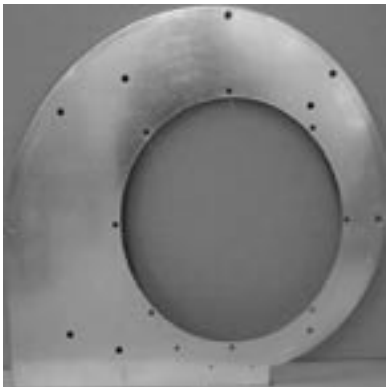
Housing Construction

Fan housings are constructed from a scroll, two side plates and a cutoff plate. For Fan sizes up to 18", the housing sides and scroll are spot welded together to form a durable assembly. For fan sizes 20" and larger, the side plates are lock formed to the scroll for a durable, air tight construction without compromising the galvanized surface coating.



Side Plates

Side plates are manufactured with pre-punched holes for attaching mounting feet or side frames.

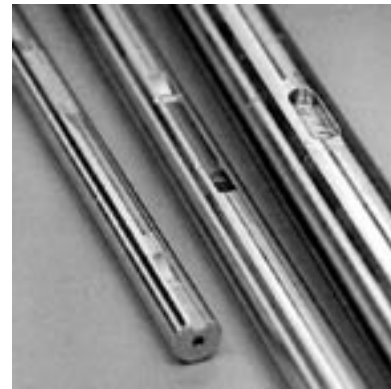


Cutoff Plates

Cutoff plates are uniquely designed to ensure quiet, smooth airflow through the fan.

Shafts

Shafts are C40 hot rolled steel, turned, ground, polished, and ring gauged for accuracy. Solid shafts are coated for enhanced corrosion protection.



Coatings

Shafts, wheels and frames are coated with a protective paint. Custom coatings can be supplied upon request.

Optional Construction

Fans can be built with inlet cones made of aluminum, copper, or steel with copper rubbing strips for spark proof construction.

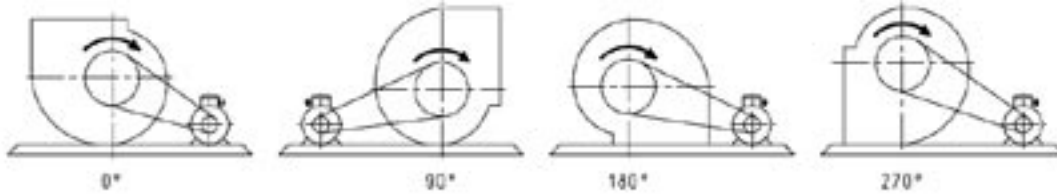
Options:

- Access Doors
- Drain Plugs
- Outlet Flanges
- Piezometer Rings

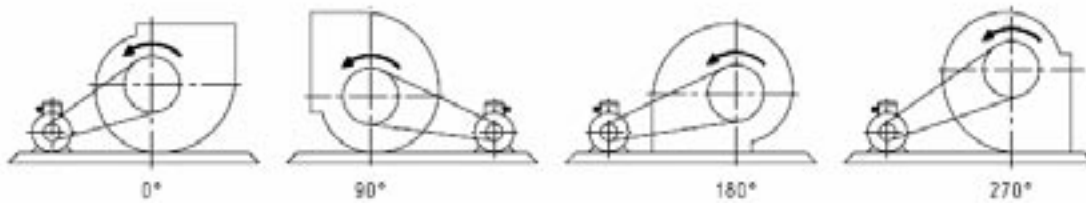
Fan Selection Guidelines

FAN ROTATION AND DISCHARGE

CW



CCW



Pulleys can be mounted on either side of the VAF fans. The four fan configurations labeled CW show the fan and motor positions available for a clockwise rotation. The four fan configurations labeled CCW show the fan and motor positions available for a counterclockwise rotation.

There is no need to specify fan orientation when placing an order because of the complete versatility of positioning the fan in the field. Fan orientation must be indicated when some accessories are ordered such as drain holes, plugs, or when motors and drives are factory installed.

INSTALLATION

Each fan is supplied ready for installation. The base feet for class L must be ordered as a separate item for field installation. The base feet package comes with two opposed base feet, mounting screws and four vibration isolators that fit into pre-punched holes in the feet. Fans equipped with side frames need no accessory packages for installation.

The fan can be oriented in any one of four positions. Each piece of the side frame has mounting holes for bolting the fan onto an isolated base frame. Fans should never be installed on their side (with the shaft vertical). Contact the factory if you require a non standard installation. Motor mount packages can be purchased as an accessory for installing motors directly on to the housing of the class L fans.

Motor and Pulley Selection

MOTOR SELECTION

Efficiency and horsepower data on the fan charts are based on fan performance tested with an open inlet and ducted outlet in accordance with AMCA Standard 210-99. Bearing and drive losses must also be considered in sizing the motor.

To find the minimum motor power required to drive the fan at a specific standard CFM and pressure drop, multiply this number by the correction factor. The motor used to drive the fan should be greater or equal to the calculated number.

CORRECTION FACTOR FOR MOTOR HP

HP TOTAL	CORRECTION FACTOR
LESS THAN 2	1.25
BETWEEN 2 AND 15	1.20
GREATER THAN 15	1.15

Definitions:

Minimum Motor Size = HP Total x Correction Factor

1 HP = .74 KW

PULLEY SELECTION

Proper pulley selection will aid the bearings in achieving their full life expectancy. The maximum number of grooves recommended for the fan models is given below.

Charts listing the minimum recommended pulley diameter for each fan size and model are given on page 12. The pulley diameter is given for the smallest pulley in the set of two to drive the fan.

MODEL VAF			
	Class L, R	Class K	Class K2
NUMBER OF GROOVES	2	3	4

Product Range

VAF models include double width, double inlet, airfoil fan wheels in a customized housing designed for quiet and efficient operation. Airfoil wheels are available in 12" wheel diameters. Each wheel has one standard width. Custom wheel widths are available with sufficient order quantities. Contact the factory for pricing and availability on custom products.

A complete list of standard airfoil wheel sizes is given below. The first number of each size gives the nominal wheel diameter in inches. The second number gives the nominal wheel width in inches.

VAF AIRFOIL WHEEL SIZES			
11-10	12-11	14-13	16-14
18-16	20-18	22-20	25-22
28-25	32-28	36-32	<u>40-35</u>
<u>40</u> = Wheel Diameter Size		<u>35</u> = Wheel Width	
<p>The number of fans, type of frame construction, bearing style, number of bearings, bearing mounts, and shaft design can change as standard items with each fan model. A quick reference chart of the major components for each fan model is listed below.</p>			

VAF CATALOG COMPONENT DATA

Model	Class	Wheel Dia. Min.	Wheel Dia. Max.	No. of Wheels	Standard Components							
					Mounting*	Side Frame	Full Frame	Solid Shaft	2 Shafts Joined with a Coupling	Qty. of Bearings	Spider Mount	Pillow Block Bearings***
VAF	L	11"	28"	1	X			X		2	X	
VAF	R	11"	28"	1		X		X		2	X	
VAF	K	11"	40"	1			X	X		2		X
VAF	K2	20"	40"	1			X	X		2		X
VAF-2	K	11"	25"	2			X	X		3		X
VAF-2	K	28"	40"	2			X		X	4		X
VAF-2	K2	11"	25"	2			X	X		3		X
VAF-2	K2	28"	40"	2			X		X	4		X

* Mounting feet are not included with the fan. They are sold as an accessory.

** Two sets of mounting feet required.

*** Bearings can be relubricated.

Pulley Selection Guidelines

VAF - MINIMUM DIAMETER (IN INCHES) RECOMMENDED FOR THE SMALLER PULLEY OF THE DRIVE																						
SIZE	11 & 12				14				16				18				20					
MODEL	VAF		VAF-2		VAF		VAF-2		VAF		VAF-2		VAF		VAF-2		VAF		VAF-2			
CLASS	L/R	K	K	K2	L/R	K	K	K2	L/R	K	K	K2	L/R	K	K	K2	L/R	K	K	K2		
MOTOR HP	3			2.4																		
	4	2.8	2.8	3.2																		
	5	3.2	2.8	3.2		3.2		3.6		3.6		3.2		3.4						4.0		
	7.5		3.6	3.6	3.4	4.0	3.6	4.0		4.6	3.6	3.6		4.0	3.6	3.6		4.4		4.4		
	10				4.4		4.0		3.6		4.4		3.6	4.4	4.4	5.0	3.6	5.6	4.0	4.4		
	15								5.0				4.4	5.0		4.4			7.0		4.4	
	20																				5.0	
	25																					6.4
	30																					

VAF - MINIMUM DIAMETER (IN INCHES) RECOMMENDED FOR THE SMALLER PULLEY OF THE DRIVE																		
SIZE	22					25					28							
MODEL	VAF			VAF-2		VAF			VAF-2		VAF			VAF-2				
CLASS	L/R	K	K2	K	K2	L/R	K	K2	K	K2	L/R	K	K2	K	K2	K	K2	
MOTOR HP	5																	
	7.5																	
	10	5.6			4.4		5.6											
	15	7.0	6.0		5.6		7.0	6.0		5.6		7.0						
	20	9.0	8.0				10.0	8.0		7.6		9.0	9.0					
	25		9.0			7.0		10.0			7.0		10.0			7.0		
	30			5.6		8.0			6.0		8.0		12.4			8.0		
	40			6.4		11.0			7.0		11.0					11.0		
	50			6.4					7.6		14.0					8.0		
	60								9.0							8.6		9.0
	75														9.0		9.0	
100																	11.0	

VAF - MINIMUM DIAMETER (IN INCHES) RECOMMENDED FOR THE SMALLER PULLEY OF THE DRIVE												
SIZE	32				36				40			
MODEL	VAF		VAF-2		VAF		VAF-2		VAF		VAF-2	
CLASS	K	K2	K	K2	K	K2	K	K2	K	K2	K	K2
MOTOR HP	15											
	20	8.0										
	25	10.0		7.0		6.4						
	30	11.0		7.6		7.0		9.0		7.0		7.6
	40			10.0		10.0		10.0		9.4		9.0
	50		8.6					12.4		12.4		11.0
	60		9.0		9.0		9.0		9.0		9.0	9.0
	70		9.0		10.0		9.0		9.0		9.0	9.0
100				11.0		11.0		11.0		12.0	11.0	

Maximum BHP, RPM, Weights and WR²

MODEL	CLASS		UNITS	11	12	14	16	18	20
VAF	L	MAX HP	HP	7.5	7.5	10	10	15	15
VAF	R		HP	7.5	7.5	10	10	15	15
VAF	K		HP	7.5	10	15	20	20	25
VAF	K2		HP	-	-	-	-	-	20
VAF-2	K		HP	7.5	10	10	10	15	15
VAF-2	K2		HP	-	-	-	-	-	40
VAF	L	MAX. SPEED	RPM	4000	3200	2800	2400	2200	2000
VAF	R		RPM	4000	3200	2800	2400	2200	2000
VAF	K		RPM	4500	4000	3800	3200	2800	2500
VAF	K2		RPM	-	-	-	-	-	2800
VAF-2	K		RPM	3200	2800	2600	2100	1800	1600
VAF-2	K2		RPM	-	-	3000	2400	2200	2000
VAF	L	FAN WEIGHT	LBS	28	47	64	80	110	137
VAF	R		LBS	38	55	76	93	125	154
VAF	K		LBS	48	70	102	125	161	199
VAF	K2		LBS	-	-	-	-	-	243
VAF-2	K		LBS	104	154	228	278	354	434
VAF-2	K2		LBS	-	175	240	317	387	517
		WHEEL WT.	LBS	12	16	21	26	43	54
		WHEEL WR ²	LB-FT ²	1.6	2.6	4.3	7.1	12.4	21.2

MODEL	CLASS		UNITS	22	25	28	32	36	40
VAF	L	MAX. HP.	HP	20	-	-	-	-	-
VAF	R		HP	20	20	20	-	-	-
VAF	K		HP	25	25	30	30	40	50
VAF	K2		HP	50	50	70	70	100	100
VAF-2	K		HP	15	20	40	40	50	50
VAF-2	K2		HP	40	50	100	100	100	100
VAF	L	MAX. SPEED	RPM	1800	-	-	-	-	-
VAF	R		RPM	1800	1700	1400	-	-	-
VAF	K		RPM	2300	2000	1700	1300	1200	1100
VAF	K2		RPM	2500	2200	2000	1600	1400	1300
VAF-2	K		RPM	1400	1200	1000	1150	1000	800
VAF-2	K2		RPM	1800	1600	1400	1200	1000	900
VAF	L	FAN WGT.	LBS	174	-	-	-	-	-
VAF	R		LBS	203	263	365	-	-	-
VAF	K		LBS	311	382	485	595	755	914
VAF	K2		LBS	336	408	550	673	826	1005
VAF-2	K		LBS	663	816	1279	1647	1947	2310
VAF-2	K2		LBS	740	899	1291	1660	1960	2324
		WHEEL WT.	LBS	66	87	136	198	245	329
		WHEEL WR ²	LB-FT ²	34	55	117	196	305	589

Performance Data

Size 11 Class L/R Max. RPM 4000

Class K Max. RPM 4500

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		8.0" SP		10.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	713	1401	0.26	1909	0.58														
1200	855	<u>1451</u>	<u>0.30</u>	1939	0.65	2335	1.05												
1400	998	1515	0.36	1978	0.72	2363	1.15	2698	1.63										
1600	1140	1590	0.42	<u>2026</u>	<u>0.81</u>	2399	1.26	2726	1.77	3021	2.31								
1800	1283	1672	0.50	<u>2082</u>	<u>0.90</u>	2441	1.38	2761	1.91	3050	2.48	3315	3.08						
2000	1426	1763	0.59	2150	1.02	<u>2492</u>	<u>1.51</u>	2801	2.06	3084	2.66	3345	3.29	3589	3.95	3818	4.64		
2200	1568	1859	0.69	2224	1.15	<u>2549</u>	<u>1.66</u>	2849	2.23	3124	2.85	3380	3.50	3620	4.19	3846	4.91	4264	6.43
2400	1711	1960	0.82	2303	1.29	2615	1.82	<u>2902</u>	<u>2.41</u>	3170	3.05	3420	3.73	3655	4.44	3878	5.19	4291	6.76
2600	1853	2062	0.95	2389	1.46	2688	2.01	<u>2962</u>	<u>2.62</u>	<u>3222</u>	<u>3.28</u>	3466	3.98	3696	4.71	3914	5.48	4322	7.10
2800	1996	2167	1.10	2480	1.64	2765	2.22	3030	2.84	<u>3278</u>	<u>3.51</u>	<u>3516</u>	<u>4.24</u>	3741	5.00	3956	5.79	4356	7.46
3000	2138	2273	1.27	2575	1.84	2846	2.44	3104	3.10	<u>3342</u>	<u>3.78</u>	<u>3572</u>	<u>4.52</u>	<u>3792</u>	<u>5.30</u>	4001	6.12	4395	7.84
3500	2495			<u>2825</u>	<u>2.44</u>	3071	3.12	3301	3.82	3525	4.57	3736	5.35	3938	6.17	4135	7.03		
4000	2851			3086	3.18	3315	3.94	3526	4.71	3728	5.51	3927	6.36	4117	7.24	4299	8.14		
4500	3207			3354	4.08	3570	4.93	3768	5.78	3956	6.66	4136	7.55	4313	8.48	4487	9.45		
5000	3564					3833	6.09	4022	7.05	4197	7.99	4367	8.97						
5500	3920					4101	7.45	4281	8.50	4450	9.54								

Size 12 Class L/R Max. RPM 3200

Class K Max. RPM 4000

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		8.0" SP		10.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	587	1215	0.25																
1200	683	<u>1247</u>	<u>0.29</u>																
1400	797	1283	0.34	1716	0.70														
1600	911	1323	0.41	<u>1747</u>	<u>0.78</u>	2086	1.22												
1800	1024	1368	0.48	<u>1782</u>	<u>0.88</u>	2114	1.33	2403	1.84										
2000	1138	1422	0.57	1818	0.98	<u>2146</u>	<u>1.46</u>	2430	1.99	2685	2.57								
2200	1252	1480	0.66	1857	1.11	<u>2181</u>	<u>1.61</u>	<u>2460</u>	<u>2.15</u>	2711	2.75	2942	3.38						
2400	1366	1543	0.76	1900	1.25	2218	1.76	<u>2494</u>	<u>2.34</u>	2741	2.95	2969	3.60	3181	4.29				
2600	1480	1609	0.88	1948	1.40	2256	1.94	<u>2529</u>	<u>2.53</u>	<u>2774</u>	<u>3.17</u>	2998	3.84	3208	4.55	3405	5.29		
3000	1707	1757	1.15	2060	1.76	2341	2.36	2604	2.99	<u>2845</u>	<u>3.66</u>	<u>3065</u>	<u>4.38</u>	<u>3269</u>	<u>5.12</u>	3462	5.91	3819	7.56
3500	1992			2216	2.27	2472	2.98	2712	3.69	2941	4.41	3156	5.17	<u>3357</u>	<u>5.97</u>	3545	6.81	3893	8.56
4000	2277			2392	2.91	2622	3.71	2843	4.52	3053	5.32	<u>3257</u>	<u>6.14</u>	3451	6.98	3637	7.87	3979	9.73
4500	2561			2587	3.69	2786	4.56	2991	5.47	3187	6.38	3374	7.27	3557	8.19	3735	9.12		
5000	2846					2968	5.56	3151	6.55	<u>3334</u>	<u>7.57</u>	3511	8.57	3681	9.57	3847	10.58		
5500	3130					3164	6.75	<u>3325</u>	<u>7.79</u>	3493	8.90	3659	10.01						
6000	3415							3515	9.25	3664	10.40								

Size 14 Class L/R Max. RPM 2800

Class K Max. RPM 3800

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		8.0" SP		10.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	679	1102	0.36																
2000	905	1165	0.48	1546	0.98														
2500	1132	1256	0.66	<u>1602</u>	<u>1.19</u>	1898	1.83												
3000	1358	1364	0.89	1676	1.46	<u>1954</u>	<u>2.14</u>	2204	2.91										
3500	1584	1483	1.18	1768	1.82	2024	2.52	<u>2261</u>	<u>3.33</u>	2481	4.21	2681	5.14						
4000	1811	1609	1.52	1874	2.27	2111	3.02	2331	3.84	<u>2538</u>	<u>4.75</u>	2736	5.74	2919	6.77	3091	7.85		
4500	2037	1741	1.93	1988	2.79	2209	3.62	2416	4.48	2610	5.41	<u>2796</u>	<u>6.41</u>	<u>2976</u>	<u>7.50</u>	3146	8.64	3459	11.02
5000	2263	1878	2.43	2109	3.39	2317	4.32	2511	5.24	2695	6.21	<u>2871</u>	<u>7.24</u>	<u>3039</u>	<u>8.32</u>	<u>3203</u>	<u>9.50</u>	3514	12.02
5500	2490	2018	3.02	2235	4.07	2433	5.11	2615	6.12	2789	7.14	2956	8.20	3117	9.33	<u>3272</u>	<u>10.51</u>	<u>3571</u>	<u>13.08</u>
6000	2716			2365	4.83	2553	5.99	2727	7.10	<u>2892</u>	<u>8.22</u>	3051	9.33	3204	10.49	3352	11.69	<u>3636</u>	<u>4.28</u>
6500	2943			2499	5.71	2677	6.97	2844	8.19	3002	9.40	3153	10.61	3299	11.81	3441	13.06	3713	15.69
7000	3169			<u>2636</u>	<u>6.72</u>	<u>2805</u>	<u>8.05</u>	<u>2965</u>	<u>9.40</u>	<u>3117</u>	<u>10.71</u>	<u>3261</u>	<u>12.00</u>	<u>3401</u>	<u>13.30</u>	<u>3537</u>	<u>14.60</u>	<u>3799</u>	<u>17.32</u>
7500	3395			2775	7.85	2937	9.25	3090	10.72	3236	12.14	3375	13.53	3509	14.92	3639	16.30		
8000	3622			<u>2916</u>	<u>9.13</u>	3072	10.61	3218	12.15	3358	13.69	3493	15.19	3622	16.68	3747	18.15		
8500	3848					3208	12.10	3349	13.72	3483	15.37	3613	16.98	<u>3739</u>	<u>18.58</u>				
9000	4074					3347	13.77	3483	15.45	3612	17.19	3737	18.93						

Max. Static Efficiency = Underlined

Performance certified is for installation type B: fre of appurtenances (accessories).

Legend:

Class L/R
Class K

Performance Data

Size 16 Class L/R Max. RPM 2400

Class K Max. RPM 3200

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		8.0" SP		9.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2000	723	1024	0.51																
2500	904	<u>1030</u>	<u>0.59</u>	1451	1.36														
3000	1084	1068	0.71	1446	1.48	1776	2.47												
3500	1265	1134	0.89	<u>1455</u>	<u>1.64</u>	1773	2.66	2052	3.83										
4000	1446	1211	1.11	<u>1486</u>	<u>1.87</u>	1770	2.85	2048	4.07	2295	5.41	2507	6.74						
4500	1626	1296	1.37	1542	2.19	<u>1794</u>	<u>3.16</u>	2042	4.31	2289	5.71	2514	7.21	2712	8.71	2891	10.20		
5000	1807	1386	1.66	1610	2.56	<u>1829</u>	<u>3.53</u>	<u>2061</u>	<u>4.69</u>	2283	6.00	2507	7.56	2715	9.22	2902	10.88	3073	12.54
5500	1988			1687	2.99	1887	4.01	<u>2089</u>	<u>5.14</u>	<u>2299</u>	<u>6.46</u>	2501	7.91	2706	9.60	2900	11.40	3079	13.24
6000	2168			1770	3.48	1955	4.57	2137	5.71	<u>2326</u>	<u>7.01</u>	2517	8.46	2701	10.02	2891	11.83	3072	13.75
6500	2349			1856	4.01	2029	5.18	2198	6.39	2366	7.66	<u>2544</u>	9.11	<u>2720</u>	<u>10.69</u>	2890	12.37	3064	14.26
7000	2530			1947	4.61	2109	5.87	2267	7.14	2424	8.47	<u>2580</u>	<u>9.86</u>	<u>2747</u>	<u>11.45</u>	2911	<u>13.16</u>	3068	14.92
7500	2711					2193	6.61	2342	7.96	2489	9.35	2635	10.79	<u>2782</u>	<u>12.31</u>	2938	14.03	3091	15.84
8000	2891					2281	7.44	2422	8.88	2560	10.32	2697	11.82	2834	13.37	2972	15.00	3118	16.82
9000	3253							2591	10.91	2717	12.54	2840	14.16	2962	15.82	3084	17.53		
10000	3614							<u>2772</u>	<u>13.29</u>	2886	15.08	2999	16.88	3111	18.69				
11000	3975									3066	18.00	3170	19.98						

Size 18 Class L/R Max. RPM 2200

Class K Max. RPM 2800

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		8.0" SP		9.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	861	<u>911</u>	<u>0.66</u>	1206	1.34														
3500	1004	957	0.79	<u>1233</u>	<u>1.54</u>	1471	2.38												
4000	1148	1007	0.95	<u>1268</u>	<u>1.76</u>	1493	2.66												
4500	1291	1060	1.12	1311	2.00	1524	2.97	1718	4.00	1898	5.10								
5000	1435	1116	1.32	1358	2.27	<u>1561</u>	<u>3.30</u>	<u>1747</u>	<u>4.40</u>	1919	5.56	2082	6.79						
5500	1578	1173	1.54	1408	2.58	1605	3.67	<u>1782</u>	<u>4.84</u>	<u>1947</u>	<u>6.05</u>	2104	7.34	2252	8.67				
6000	1722	1233	1.80	1459	2.90	1651	4.07	<u>1822</u>	<u>5.30</u>	<u>1981</u>	<u>6.59</u>	2132	7.93	2275	9.32	2413	10.77		
6500	1865			1514	3.28	1700	4.51	1867	5.81	<u>2019</u>	<u>7.15</u>	<u>2165</u>	<u>8.57</u>	<u>2304</u>	<u>10.03</u>	2437	11.53	2565	13.07
7000	2009			1569	3.67	1751	4.99	1914	6.35	2063	7.77	<u>2203</u>	<u>9.25</u>	<u>2337</u>	<u>10.77</u>	<u>2466</u>	<u>12.33</u>	2591	13.95
7500	2152			1627	4.11	1804	5.50	1963	6.94	2109	8.43	2245	9.97	<u>2374</u>	<u>11.54</u>	<u>2499</u>	<u>13.17</u>	<u>2620</u>	<u>14.85</u>
8000	2296			1685	4.58	1858	6.06	2013	7.56	2156	9.12	2290	10.73	<u>2416</u>	<u>12.39</u>	<u>2537</u>	<u>14.08</u>	<u>2654</u>	<u>15.81</u>
8500	2439			1745	5.09	1914	6.66	2066	8.25	<u>2206</u>	<u>9.87</u>	2337	11.55	2461	13.27	<u>2578</u>	<u>15.02</u>	<u>2692</u>	<u>16.83</u>
9000	2582			1806	5.65	1971	7.30	2119	8.96	2257	10.67	2385	12.40	2507	14.20	2622	16.02	2733	17.89
10000	2869					2088	8.71	2231	10.56	2363	12.42	2487	14.31	2604	16.22	2716	18.19		
11000	3156					<u>2209</u>	<u>10.33</u>	2347	12.35	2474	14.38	2593	16.42	<u>2707</u>	<u>18.50</u>				
12000	3443							2466	14.36	2589	16.56	2704	18.77						

Size 20 Class L/R Max RPM 2000

Class K Max. RPM 2500

Class K2 Max. RPM 2800

CFM	OV	2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		8.0" SP		10.0" SP		12.0" SP		14.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	685	1050	1.42	1288	2.30														
3500	799	1052	1.58	1286	2.53	1487	3.56												
4000	913	1058	1.75	1287	2.76	1485	3.87	1662	5.05										
4500	1027	<u>1072</u>	<u>1.93</u>	1290	3.00	1485	4.17	1660	5.43	1820	6.74								
5000	1141	<u>1093</u>	<u>2.14</u>	1298	3.26	1488	4.50	1661	5.82	1818	7.19	2102	10.13						
6000	1370	1151	2.63	<u>1333</u>	<u>3.85</u>	1504	5.18	1667	6.62	1822	8.15	2100	11.37	2348	14.78	2575	18.38		
7000	1598	1220	3.23	1388	4.56	1543	5.99	<u>1691</u>	<u>7.52</u>	1834	9.14	2104	12.63	2348	16.33	2572	20.24	2779	24.28
8000	1826	1295	3.93	1453	5.39	1598	6.94	<u>1733</u>	<u>8.55</u>	<u>1864</u>	<u>10.26</u>	2116	13.96	2353	17.92	2574	22.11	2778	26.44
9000	2054			1525	6.35	1662	8.02	1789	9.75	<u>1911</u>	<u>11.57</u>	<u>2144</u>	<u>15.44</u>	2367	19.61	2579	24.01	2782	28.65
10000	2283			1601	7.44	1732	9.25	1853	11.11	1969	13.05	2187	17.11	<u>2395</u>	<u>21.46</u>	2596	26.08	2789	30.91
11000	2511					1807	10.64	1924	12.65	2033	14.68	2241	18.98	<u>2436</u>	<u>23.51</u>	<u>2625</u>	<u>28.31</u>		
12000	2739							1997	14.31	2104	16.53	2302	21.05	<u>2488</u>	<u>25.79</u>	<u>2666</u>	<u>30.76</u>		
13000	2967							<u>2074</u>	<u>16.18</u>	2177	18.52	2368	23.30	2547	28.29	<u>2718</u>	<u>33.51</u>		
14000	3196									2253	20.70	2439	25.78	2612	31.04	2776	36.47		
15000	3424											2513	28.48	2680	33.97				
16000	3652											2589	31.38	2753	37.20				

Max. Static Efficiency = Underlined

Performance certified is for installation type B: fre
of appurtenances (accessories).

Legend:

Class L/R
Class K
Class K2

Performance Data

Size 22 Class L/R Max RPM 1800 Class K Max. RPM 2300 Class K2 Max. RPM 2500

CFM	OV	2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		9.0" SP		11.0" SP		13.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	909	<u>975</u>	<u>2.13</u>	1179	3.30														
6000	1090	<u>999</u>	<u>2.56</u>	<u>1192</u>	<u>3.85</u>	1364	5.24	1516	6.68										
7000	1272	1034	3.09	<u>1214</u>	<u>4.47</u>	<u>1377</u>	<u>5.97</u>	1528	7.58	1666	9.24	1793	10.95						
8000	1454	1076	3.71	1246	5.21	<u>1399</u>	<u>6.80</u>	<u>1543</u>	<u>8.52</u>	1678	10.33	1804	12.18	2034	16.07				
9000	1635	1126	4.44	1283	6.05	1430	7.77	<u>1566</u>	<u>9.57</u>	<u>1695</u>	<u>11.48</u>	1818	13.49	2045	17.66	2250	22.01		
10000	1817	1180	5.27	1328	7.03	1466	8.85	1596	10.76	<u>1719</u>	<u>12.77</u>	<u>1837</u>	<u>14.88</u>	2058	19.32	2262	23.97	2449	28.78
11000	1999			1378	8.13	1508	10.08	1633	12.13	1750	14.22	1862	16.40	2075	21.04	2274	25.97	2460	31.08
12000	2181			1431	9.35	1556	11.47	1673	13.62	1787	15.86	1895	18.15	2099	22.96	2291	28.08	2473	33.48
13000	2362			1488	10.71	1606	12.97	1719	15.28	1826	17.62	1931	20.04	2128	25.06	2314	30.40	2490	35.98
14000	2544					1661	14.65	1768	17.09	1871	19.57	1970	22.09	2163	27.40	2341	32.87		
15000	2726					1718	16.48	1821	19.09	1920	21.72	2015	24.37	2200	29.91	2374	35.63		
16000	2908							1876	21.23	1972	24.04	2064	26.85	2240	32.60	2410	38.58		
17000	3089							1934	23.58	2026	26.53	2115	29.51	2285	35.53	2448	41.73		
18000	3271									2083	29.24	2168	32.34	2333	38.67	2490	45.13		
19000	3453											2224	35.40	2384	42.06				
20000	3634											2282	38.69	2436	45.61				

Size 25 Class L/R Max RPM 1700 Class K Max. RPM 2000 Class K2 Max. RPM 2200

CFM	OV	2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		9.0" SP		11.0" SP		13.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	724	835	2.29																
6000	869	844	2.63	1021	4.13														
7000	1000	<u>861</u>	<u>3.02</u>	1030	4.65	1180	6.42												
8000	1158	<u>887</u>	<u>3.47</u>	1044	5.22	1189	7.11	1321	9.13	1441	11.22								
9000	1286	917	3.97	<u>1065</u>	<u>5.83</u>	1201	7.84	1330	9.99	1449	12.24	1559	14.56						
10000	1448	951	4.54	<u>1092</u>	<u>6.51</u>	<u>1220</u>	<u>8.63</u>	1342	10.90	1458	13.28	1567	15.74	1766	20.91				
11000	1571	988	5.17	1122	7.27	<u>1245</u>	<u>9.51</u>	<u>1360</u>	<u>11.88</u>	1471	14.39	1577	16.98	1774	22.43	1952	28.15		
12000	1738	1027	5.87	1155	8.10	1275	<u>10.49</u>	<u>1384</u>	<u>12.95</u>	<u>1489</u>	<u>15.56</u>	1590	<u>18.26</u>	1783	23.99	1960	30.01	2122	36.24
13000	1857	1068	6.66	1192	9.03	1305	11.52	1413	14.14	<u>1513</u>	<u>16.86</u>	<u>1609</u>	<u>19.66</u>	1795	25.63	1969	31.92	2130	38.44
14000	2027			1230	10.03	1339	12.65	1443	15.40	<u>1540</u>	<u>18.21</u>	<u>1633</u>	<u>21.17</u>	1810	27.34	1980	33.89	2139	40.69
15000	2143			1270	11.13	1376	13.88	1475	16.76	1570	19.70	<u>1660</u>	<u>22.75</u>	1830	29.14	1993	35.91	2149	42.98
17000	2429			1354	13.65	1454	16.67	1547	19.77	1635	22.99	1720	26.28	1882	33.15	<u>2033</u>	<u>40.36</u>	2178	47.87
19000	2714					1536	19.87	1625	23.27	1709	26.74	1789	30.30	1942	37.67	2087	45.36		
21000	3000							1707	27.25	1788	31.03	1864	34.81	2009	42.72	2147	50.90		
23000	3286									1870	35.83	1944	39.94	2083	48.33				
25000	3571											2027	45.65						

Size 28 Class L/R Max RPM 1400 Class K Max. RPM 1700 Class K2 Max. RPM 2000

CFM	OV	2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		9.0" SP		11.0" SP		13.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	691	750	2.69																
7000	806	756	3.02	920	4.77														
8000	922	<u>766</u>	<u>3.38</u>	920	5.25	1063	7.29												
9000	1037	<u>782</u>	<u>3.80</u>	930	5.78	1061	7.93	1189	10.25										
10000	1152	800	4.26	<u>941</u>	<u>6.33</u>	1070	8.62	1186	11.03	1301	13.60								
12000	1382	839	5.35	975	7.65	<u>1093</u>	<u>10.11</u>	1204	12.76	1308	15.58	1404	18.47	1595	24.62				
14000	1613	883	6.67	1013	9.21	1128	11.90	<u>1232</u>	<u>14.76</u>	<u>1328</u>	<u>17.71</u>	1423	20.91	1595	27.53	1759	34.53	1922	41.92
16000	1843	935	8.28	1055	11.06	1167	14.01	1268	17.07	<u>1361</u>	<u>20.26</u>	1448	23.60	1615	30.69	1769	38.22	1912	45.99
18000	2074			1103	13.24	1208	16.41	1307	19.74	1398	23.16	<u>1483</u>	<u>26.69</u>	<u>1639</u>	<u>34.10</u>	1788	42.05	1929	50.45
20000	2304			1156	15.73	1254	19.19	1348	22.74	1437	26.41	1521	30.22	1674	38.04	1814	46.33	1949	55.12
22000	2535					1305	22.34	1393	26.14	1478	30.03	1560	34.08	1711	42.42	1849	51.14	1976	60.20
24000	2765					1361	25.91	1443	29.97	1524	34.17	1602	38.41	1750	47.25	1886	56.47		
26000	2995							1498	34.29	1573	38.68	1648	43.26	1791	52.55	1924	62.20		
28000	3226									1627	43.75	1697	48.53	1834	58.37	1964	68.47		
30000	3456									1684	49.30	1751	54.41	1881	64.75				
32000	3687											1808	60.84	1931	71.68				

Max. Static Efficiency = Underlined

Performance certified is for installation type B: fre of appurtenances (accessories).

Legend:

Class L/R
Class K
Class K2

Performance Data

Size 32 Class K Max. RPM 1300

Class K2 Max. RPM 1600

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		9.0" SP		11.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	733	<u>489</u>	<u>1.64</u>	671	3.49														
9000	825	<u>501</u>	<u>1.85</u>	675	3.81	823	6.01												
10000	916	516	2.09	680	4.15	821	6.48												
11000	1008	533	2.35	<u>688</u>	<u>4.52</u>	826	6.97	948	9.63										
12000	1099	551	2.64	<u>699</u>	<u>4.92</u>	832	7.50	950	10.28	1061	13.24								
14000	1283	591	3.32	728	5.85	848	8.62	961	11.63	1066	14.87	1161	18.19	1256	21.70				
16000	1466			762	6.91	<u>874</u>	<u>9.91</u>	<u>978</u>	<u>13.16</u>	1077	16.59	1172	20.22	1257	23.93	1424	31.84		
18000	1649			799	8.12	905	11.38	1003	14.86	1094	18.47	1183	22.32	1269	26.30	1425	34.70	1573	43.53
20000	1832			<u>839</u>	<u>9.52</u>	941	13.06	1033	16.76	1119	20.59	1202	24.65	1282	28.84	1437	37.72	1576	47.08
22000	2016					978	14.89	1066	18.82	1149	22.96	<u>1227</u>	<u>27.18</u>	<u>1303</u>	<u>31.64</u>	1448	40.89	1588	50.75
24000	2199					1018	16.97	1103	21.17	1182	25.54	1257	30.03	<u>1329</u>	<u>34.65</u>	1466	44.32	1599	54.65
26000	2382					1060	19.28	1141	23.72	1218	28.35	1289	33.04	1359	37.98	1490	48.07		
28000	2565							1181	26.52	1255	31.39	1325	36.40	1391	41.50	1518	52.12		
30000	2749							1223	29.61	1294	34.73	1362	39.99	1427	45.40	1549	56.51		
32000	2932									<u>1335</u>	<u>38.38</u>	1401	43.93	1464	49.56	1582	61.15		
34000	3115											1441	48.13	1502	54.02				

Size 36 Class K Max. RPM 1200

Class K2 Max. RPM 1400

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		9.0" SP		11.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	582	424	1.69	595	3.70														
10000	728	<u>435</u>	<u>2.08</u>	596	4.33	729	6.90												
12000	873	454	2.53	603	5.04	730	7.84	842	10.91										
14000	1019	476	3.04	614	5.81	735	8.86	843	12.15	941	15.66	1031	19.39						
16000	1164	501	3.62	<u>631</u>	<u>6.68</u>	745	10.00	848	13.52	943	17.27	1032	21.26	1114	25.39				
18000	1310	529	4.31	653	7.66	<u>759</u>	<u>11.23</u>	857	15.00	948	18.97	1034	23.19	1115	27.57	1263	36.81		
20000	1455			676	8.72	<u>777</u>	<u>12.55</u>	<u>870</u>	<u>16.60</u>	<u>958</u>	<u>20.87</u>	1040	25.27	1118	29.87	1264	39.62	1396	49.88
22000	1601			701	9.89	799	14.03	887	18.36	970	22.83	1050	27.55	1125	32.35	1266	42.50	1397	53.30
24000	1746			728	11.18	822	15.61	907	20.19	986	24.97	1062	29.89	1135	34.99	1272	45.64	1399	56.83
26000	1892					846	17.28	929	22.19	1005	27.22	<u>1078</u>	<u>32.48</u>	<u>1148</u>	37.82	1281	48.97		
28000	2037					872	19.12	952	24.31	1027	29.67	<u>1096</u>	<u>35.11</u>	1164	40.83	1292	52.46		
30000	2183					900	21.16	977	26.61	1049	32.20	1118	38.04	1182	43.92	1306	56.17		
32000	2328							1003	29.06	1073	34.96	1140	41.05	1203	47.22	1321	59.89		
36000	2619							1058	34.45	1124	40.93	1187	47.56	1247	54.28	1361	68.23		
40000	2910									1180	47.78	1239	54.91	1296	62.20				
45000	3274													1363	73.38				

Size 40 Class K Max. RPM 1100

Class K2 Max. RPM 1300

CFM	OV	1.0" SP		2.0" SP		3.0" SP		4.0" SP		5.0" SP		6.0" SP		7.0" SP		9.0" SP		11.0" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	579	384	2.11	541	4.65														
12000	694	389	2.45	541	5.26	662	8.40												
14000	810	<u>400</u>	<u>2.85</u>	542	5.88	662	9.32	764	13.00										
16000	926	414	3.30	546	6.56	663	10.26	764	14.22	855	18.49								
18000	1042	431	3.85	<u>554</u>	<u>7.30</u>	665	11.24	765	15.48	855	20.01	936	24.69						
20000	1157	449	4.47	<u>566</u>	<u>8.11</u>	670	12.27	767	16.79	856	21.60	936	26.51	1011	31.71				
22000	1273	468	5.17	581	9.05	<u>679</u>	<u>13.42</u>	771	18.17	857	23.15	937	28.41	1012	33.93	1146	45.26		
24000	1389			597	10.08	<u>690</u>	<u>14.59</u>	<u>777</u>	<u>19.56</u>	860	24.83	939	30.37	1013	36.15	1147	48.12	1268	60.77
26000	1505			614	11.20	704	15.93	<u>787</u>	<u>21.11</u>	866	26.61	942	32.40	1014	38.32	1147	50.83	1268	64.12
28000	1620			632	12.44	719	17.36	<u>799</u>	<u>22.74</u>	874	28.43	947	34.46	1017	40.69	1149	53.80	1268	67.44
30000	1736			651	13.81	736	19.00	813	24.53	<u>885</u>	<u>30.40</u>	955	36.69	1022	43.11	1151	56.74	1269	70.92
35000	2026					781	23.58	853	29.65	920	36.01	983	42.66	1044	49.63	1162	64.41	1275	80.03
40000	2315					830	29.13	898	35.76	961	42.66	1021	49.86	1078	57.32	1186	72.99	1290	89.73
45000	2604							947	43.03	1006	50.35	1063	58.13	1117	66.06	1219	82.68		
50000	2894									1055	59.42	1109	67.67	1160	76.07	1258	93.82		
55000	3183											1158	78.65	1208	87.82				

Max. Static Efficiency = Underlined

Performance certified is for installation type B: fre
of appurtenances (accessories).

Legend:

Class K
Class K2

Dimensional Data

VBC/VAF ARR. 3 CLASS L

TC Ventco
9509 TREDON LANE MINNEAPOLIS, MN. 55442

DWG # AC1002713A
REVISED 2-2-08
DRAWN 11-21-07

JOB: _____
LOC. _____
ENG./ARCH. _____
CERT. BY _____
S.O. NO. _____

SIZE	CLASS	ROT.	UNIT NO.
CFM	SP	RPM	BHP
TS			

ACCESSORIES REQ'D _____

NOTE:
ALL FAN MODELS CAN BE FIELD INSTALLED IN ANY OF FOUR POSITIONS.
AIRFLOW CAN BE ORIENTED UP, DOWN, OR EITHER SIDE.
(UPBLAST, DOWNBLAST, TOP HORIZONTAL, BOTTOM HORIZONTAL).

SIZE	A	B	BH	C	E	F	G	K	KL	KS	L	M	P	SD	X1	X2	X3	X4	SIZE
10	16.42	17.83	0.44 X 0.63	12.68	12.68	10.63	7.68	3.16	1.19	0.19 X 0.09	15.04	19.00	13.86	0.750	8.82	8.27	11.77	8.94	10
11	18.27	20.00	0.44 X 0.63	14.21	14.21	11.89	8.46	3.77	1.63	0.25 X 0.13	16.57	21.75	15.39	1.000	11.02	9.29	13.03	10.04	11
12	20.31	22.52	0.44 X 0.63	15.91	15.91	13.39	9.29	3.80	1.63	0.25 X 0.13	18.27	23.50	17.09	1.000	11.02	10.28	14.57	11.14	12
14	22.68	25.39	0.44 X 0.63	17.83	17.83	15.08	10.28	4.33	1.63	0.25 X 0.13	20.98	26.50	19.41	1.188	13.98	10.79	16.18	12.60	14
16	25.39	28.54	0.44 X 0.63	19.96	19.96	17.01	11.42	4.27	1.63	0.25 X 0.13	23.11	28.50	21.54	1.188	13.98	11.89	18.19	14.13	16
18	28.43	32.17	0.50 X 0.75	22.40	22.40	19.13	12.68	4.80	2.00	0.38 X 0.19	26.18	32.00	24.37	1.438	20.87	13.23	20.39	16.02	18
20	31.30	35.67	0.50 X 0.75	25.12	25.12	21.18	13.86	4.82	2.00	0.38 X 0.19	28.90	34.75	27.09	1.438	20.87	14.76	22.36	17.64	20
22	34.88	40.00	0.50 X 0.75	28.15	28.15	23.74	15.35	5.68	2.81	0.38 X 0.19	31.93	39.50	30.12	1.500	20.87	16.38	24.96	19.76	22

VBC SIZES: 10-22
VAF SIZES: 12-22

DWG NO AC 1002713A

Dimensional Data

VBC/VAF ARR. 3 CLASS R

TC Ventco
5809 WESTERN AVE. MARSHFIELD, WI. 53404

DWG # AC 1002714A
REVISED 2-2-08
DRAWN 11-21-07

JOB: _____
LOC: _____
ENG./ARCH: _____
CERT. BY: _____
S.O. NO.: _____

SIZE	CLASS	ROT.	UNIT NO.
CFM	SP	RPM	BHP
ACCESSORIES REQ'D			
TS			


NOTE:
ALL FAN MODELS CAN BE FIELD INSTALLED IN ANY OF FOUR POSITIONS.
AIRFLOW CAN BE ORIENTED UP, DOWN, OR EITHER SIDE.
(UPBLAST, DOWNBLAST, TOP HORIZONTAL, BOTTOM HORIZONTAL).

SIZE	A	B	BH	C	E	F	G	H	K	KL	KS	L	M	P	R	S	SD	V	X1	X2	SIZE
10	15.00	18.15	0.44 X 0.63	12.68	12.68	10.63	7.68	16.50	2.16	1.19	0.19 X 0.09	14.68	19.00	13.86	1.50	0.16	0.750	1.00	8.82	8.82	10
11	16.89	20.39	0.50 X 0.75	14.21	14.21	11.89	8.46	18.35	2.52	1.63	0.25 X 0.13	16.71	21.75	15.39	1.46	0.20	1.000	1.25	11.02	11.02	11
12	18.90	22.76	0.50 X 0.75	15.91	15.91	13.39	9.29	20.39	2.55	1.63	0.25 X 0.13	18.41	23.50	17.09	1.49	0.16	1.000	1.25	11.02	11.02	12
14	21.42	25.79	0.50 X 0.75	17.83	17.83	15.08	10.28	22.76	2.83	1.63	0.25 X 0.13	20.83	26.50	19.41	1.34	0.24	1.187	1.50	13.98	13.98	14
16	23.98	28.98	0.50 X 0.75	19.96	19.96	17.01	11.42	25.55	2.77	1.63	0.25 X 0.13	22.96	28.50	21.54	1.57	0.20	1.187	1.50	13.98	13.98	16
18	26.73	32.56	0.50 X 0.75	22.40	22.40	19.13	12.68	28.58	3.30	2.00	0.38 X 0.19	25.40	32.00	24.37	1.85	0.24	1.437	1.50	20.87	20.87	18
20	29.45	36.14	0.50 X 0.75	25.12	25.12	21.18	13.86	31.50	3.32	2.00	0.38 X 0.19	28.12	34.75	27.09	2.05	0.24	1.437	1.50	20.87	20.87	20
22	33.03	40.55	0.50 X 0.75	28.15	28.15	23.74	15.35	35.08	3.68	2.81	0.38 X 0.19	32.15	39.50	30.12	2.05	0.31	1.500	2.00	20.87	20.87	22
25	37.01	45.55	0.50 X 0.75	31.54	31.54	26.73	17.09	39.21	3.61	2.81	0.38 X 0.19	35.54	42.75	33.50	2.20	0.28	1.500	2.00	20.87	20.87	25
28	41.34	51.30	0.75 X 0.88	35.35	35.35	30.12	19.09	43.98	5.07	3.56	0.50 X 0.25	39.35	49.50	37.32	2.64	0.28	1.937	2.00	24.80	24.80	28

VBC SIZES: 10-28
VAF SIZES: 12-28

DWG NO AC 1002714A

Dimensional Data

VBC/VAF ARR. 3 CLASS K & K2		 5909 TRENTON LANE MINNEAPOLIS, MN. 55412		DWG # AC1002715A
				REVISED 2-2-08
				DRAWN 11-21-07
JOB:				
LOC.				
ENG./ARCH.				
CERT. BY				
S.O. NO.				
SIZE	CLASS	ROT.	UNIT NO.	
CFM	SP	RPM	BHP	TS
ACCESSORIES REQ'D				


NOTE:
 ALL FAN MODELS CAN BE FIELD INSTALLED IN ANY OF FOUR POSITIONS.
 AIRFLOW CAN BE ORIENTED UP, DOWN, OR EITHER SIDE.
 (UPBLAST, DOWNBLAST, TOP HORIZONTAL, BOTTOM HORIZONTAL).

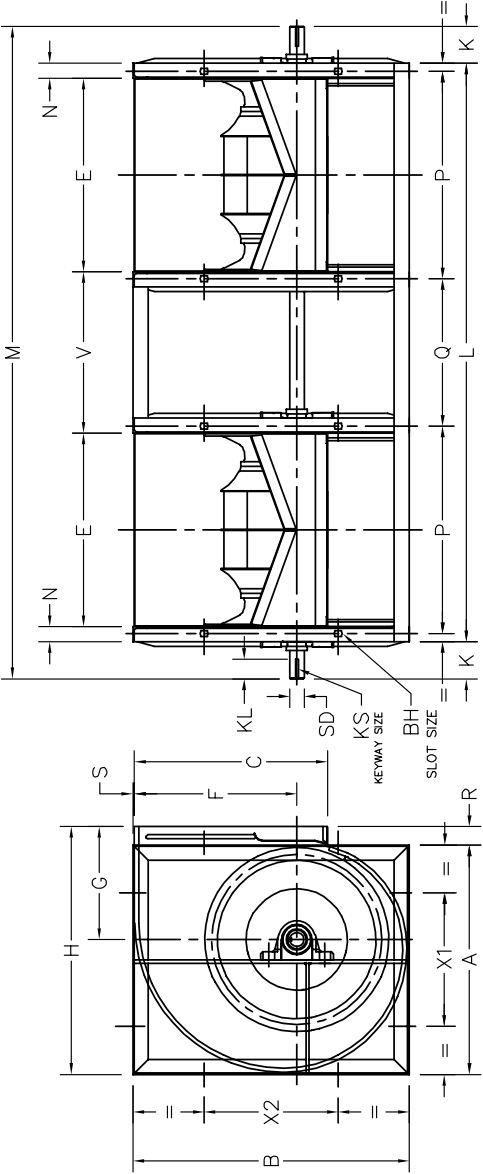
SIZE	A	B	BH	C	E	F	G	H	K		KL		KS		L		M		P	R	S	SD		V	X1	X2	SIZE
									CL	K	CL	K2	CL	K	CL	K2	CL	K				CL	K2				
10	15.00	18.15	0.44 X 0.63	12.68	10.63	7.68	16.50	2.79	N/A	1.63	N/A	0.25 X 0.13	N/A	14.68	20.25	N/A	13.86	1.50	0.16	1.000	N/A	1.00	8.82	8.82	10		
11	16.89	20.39	0.50 X 0.75	14.21	11.89	8.46	18.35	3.02	N/A	1.63	N/A	0.25 X 0.13	N/A	16.71	22.75	N/A	15.39	1.46	0.16	1.187	N/A	1.25	11.02	11.02	11		
12	18.90	22.76	0.50 X 0.75	15.91	13.39	9.29	20.39	3.05	N/A	1.63	N/A	0.25 X 0.13	N/A	18.41	24.50	N/A	17.09	1.49	0.16	1.187	N/A	1.25	11.02	11.02	12		
14	21.42	25.79	0.50 X 0.75	17.83	15.08	10.28	22.76	3.09	N/A	2.00	N/A	0.38 X 0.19	N/A	20.83	27.00	N/A	19.41	1.34	0.24	1.437	N/A	1.50	13.98	13.98	14		
16	24.13	28.98	0.50 X 0.75	19.96	17.01	11.42	25.63	3.27	N/A	2.00	N/A	0.38 X 0.19	N/A	22.96	29.50	N/A	21.54	1.50	0.24	1.437	N/A	1.50	13.98	13.98	16		
18	26.73	32.56	0.50 X 0.75	22.40	19.13	12.68	28.58	4.05	N/A	2.81	N/A	0.38 X 0.19	N/A	25.40	33.50	N/A	24.37	1.85	0.24	1.500	N/A	1.50	20.87	20.87	18		
20	29.45	36.14	0.50 X 0.75	25.12	21.18	13.86	31.50	4.07	4.07	2.81	3.56	0.38 X 0.19	0.50 X 0.25	28.12	36.25	36.25	27.09	2.05	0.24	1.500	1.937	1.50	20.87	20.87	20		
22	33.03	40.55	0.50 X 0.75	28.15	23.74	15.35	35.16	5.05	5.05	3.56	3.56	0.50 X 0.25	0.50 X 0.25	32.15	42.25	42.25	30.12	2.13	0.31	1.937	1.937	2.00	20.87	20.87	22		
25	37.01	45.55	0.50 X 0.75	31.54	26.73	17.09	39.33	4.98	4.98	3.56	3.56	0.50 X 0.25	0.50 X 0.25	35.54	45.50	47.75	33.50	2.32	0.31	1.937	1.937	2.00	20.87	20.87	25		
28	41.34	51.30	0.75 X 0.88	35.35	30.12	19.09	44.13	5.08	5.08	3.56	3.56	0.50 X 0.25	0.63 X 0.31	39.35	49.50	52.75	37.32	2.79	0.31	1.937	1.937	2.00	24.80	24.80	28		
32	46.50	57.80	0.75 X 0.88	39.65	33.94	21.26	49.41	4.93	4.93	3.56	3.56	0.50 X 0.25	0.63 X 0.31	43.65	53.50	57.00	41.61	2.91	0.31	1.937	1.937	2.00	27.95	27.95	32		
36	51.93	64.88	0.75 X 0.88	44.49	38.23	23.78	55.43	5.63	5.63	3.56	3.56	0.63 X 0.31	0.63 X 0.31	48.49	59.75	61.75	46.46	3.50	0.31	2.437	2.437	2.00	31.50	31.50	36		
40	57.13	71.26	0.75 X 0.88	49.88	41.97	25.87	60.67	5.81	5.81	3.56	3.56	0.63 X 0.31	0.63 X 0.31	53.88	65.50	67.00	51.85	3.54	0.39	2.437	2.437	2.00	35.43	35.43	40		

VBC SIZES: 10-40
 VAF SIZES: 12-40

DWG NO AC1002715A

Dimensional Data

VBC-2/VAF-2 ARRANGEMENT 3K, 3K2 TWIN FAN		DWG # AC1002716A	
REVISED 1-11-08		DRAWN 11-21-07	
 5900 TROTTON LANE MINNEAPOLIS, MN 55412			
JOB:			
LOC:			
ENG./ARCH.			
CERT. BY			
S.O. NO.			
SIZE	CLASS	ROT.	UNIT NO.
CFM	SP	RPM	BHP
ACCESSORIES REQ'D			
TS			



NOTE:
ALL FAN MODELS CAN BE FIELD INSTALLED IN ANY OF FOUR POSITIONS.
AIRFLOW CAN BE ORIENTED UP, DOWN, OR EITHER SIDE.
(UPBLAST, DOWNBLAST, TOP HORIZONTAL, BOTTOM HORIZONTAL).

SIZE	A	B	BH	C	E	F	G	H	K	KL	KS	L	M	N	P	Q	R	S	SD	V	X1	X2
									ARR. 3K	ARR. 3K2	ARR. 3K	ARR. 3K2	ARR. 3K	ARR. 3K2					ARR. 3K	ARR. 3K2		
10	15.00	18.15	0.44	0.63	12.68	10.63	7.68	16.50	2.78	1.63	0.25	0.13	0.25	0.13	0.25	0.13	0.25	0.16	1.000	1.187	9.84	8.82
11	16.89	20.39	0.50	0.75	14.21	11.89	8.46	18.35	3.03	1.63	0.25	0.13	0.38	0.19	0.38	0.19	0.46	0.20	1.187	1.437	11.02	11.02
12	18.90	22.76	0.50	0.75	15.91	13.39	9.29	20.39	3.02	1.63	0.25	0.13	0.38	0.19	0.38	0.19	0.46	0.20	1.187	1.437	12.40	11.02
14	21.97	25.79	0.50	0.75	17.83	15.08	10.28	22.76	3.30	2.00	0.38	0.19	0.38	0.19	0.38	0.19	0.46	0.20	1.437	1.500	13.98	13.98
16	24.13	28.98	0.50	0.75	19.96	16.71	11.42	25.70	3.42	2.00	0.38	0.19	0.50	0.25	0.50	0.25	0.58	0.20	1.437	1.937	15.75	13.98
18	26.73	32.56	0.50	0.75	22.40	19.13	12.68	28.70	3.99	2.81	0.38	0.19	0.50	0.25	0.50	0.25	0.65	0.24	1.500	1.937	17.72	20.87
20	29.45	36.14	0.50	0.75	25.12	21.18	13.86	31.61	4.04	2.81	0.38	0.19	0.63	0.31	0.63	0.31	0.72	0.24	1.500	2.437	19.69	20.87
22	33.03	40.43	0.50	0.75	28.15	23.74	15.35	35.16	4.70	3.56	0.50	0.25	0.63	0.31	0.63	0.31	0.82	0.31	1.937	2.437	22.05	20.87
25	37.01	45.55	0.50	0.75	31.54	26.73	17.09	39.56	4.81	3.56	0.50	0.25	0.63	0.31	0.63	0.31	0.91	0.31	1.937	2.437	24.80	20.87
28	41.34	51.30	0.75	0.88	35.35	30.12	19.09	44.13	5.67	3.56	0.63	0.31	0.63	0.31	0.63	0.31	1.02	0.28	1.937	2.437	27.95	24.80
32	46.50	57.80	0.75	0.88	39.65	33.94	21.26	49.41	6.73	3.56	0.63	0.31	0.63	0.31	0.63	0.31	1.14	0.28	2.437	2.437	31.50	27.95
36	51.93	64.88	0.75	0.88	44.49	38.23	23.78	55.43	5.67	3.56	0.63	0.31	0.63	0.31	0.63	0.31	1.28	0.31	2.437	2.437	35.43	31.50
40	57.13	71.26	0.75	0.88	49.88	41.97	25.87	60.67	5.81	3.56	0.63	0.31	0.63	0.31	0.63	0.31	1.43	0.35	2.437	2.437	39.37	35.43

VBC SIZES: 10-40
VAF SIZES: 12-40

DWG NO AC 1002716A

Typical Specifications

Fans shall be airfoil, double width, double inlet, as manufactured by Twin City Fan Companies Ltd., Minneapolis, MN.

HOUSING - Fan housings are constructed of galvanized steel for corrosion resistance. For fan sizes up to 18" the housing sides and scroll are spot welded together to form a durable assembly. For fan sizes 20" and above the side plates are lock formed to the scroll for a durable, air tight construction without compromising the galvanized surface coating of the metal.

WHEEL - Sizes 11 through 40: Airfoil, double width, double inlet fan wheels are constructed of steel blades welded to a structural steel center plate and to end rings. The wheels are powder coated for corrosion protection.

SHAFTS - Shafts are C40 hot-rolled steel, turned, ground, polished and ring gauged for accuracy. Fan assemblies are provided with coated solid shafts for enhanced corrosion protection. Class K and K2 sizes 11 – 25 use a coated single solid shaft. Sizes 28 – 40 use twin shafts connected with a coupling.

BEARINGS - Class L and R have deep groove, self-aligning ball bearings that are permanently lubricated and sealed. The bearings are mounted inside a rubber isolator and attached directly to the fan housing with a three or four prong mount. Class K and K2 have deep groove, self-aligning ball or roller bearings mounted in a single piece pillow block housing. The bearings can be lubricated and have an average rated bearing life of 200,000 hours. The bearings are mounted on a sturdy angle iron base and bolted to the frame.

FRAME CONSTRUCTION - All fan models can be field installed in any of four positions. Airflow can be oriented up, down, or to either side (up blast, down blast, top horizontal, and bottom horizontal).

Class L - Fans are not provided with framing. Mounting feet are available as an accessory.

Class R - Fans are provided with galvanized steel, rectangular angle side frames.

Class K, and K2 - Fans are provided with welded and painted rectangular angle side frames.

Model VAF-2 Class K - Fans are provided with welded and powder coated steel angle side frames attached to three steel angle cross members.

Model VAF-2 Class K2 - Fans are provided with welded and powder coated steel angle side frames attached to three steel angle cross members.

WARRANTY - The manufacturer shall guarantee the workmanship and materials for model VAF fan for at least one (1) year from startup or eighteen (18) months from the date of shipment, whichever occurs first.

Unlimited Options...

Commercial Fans

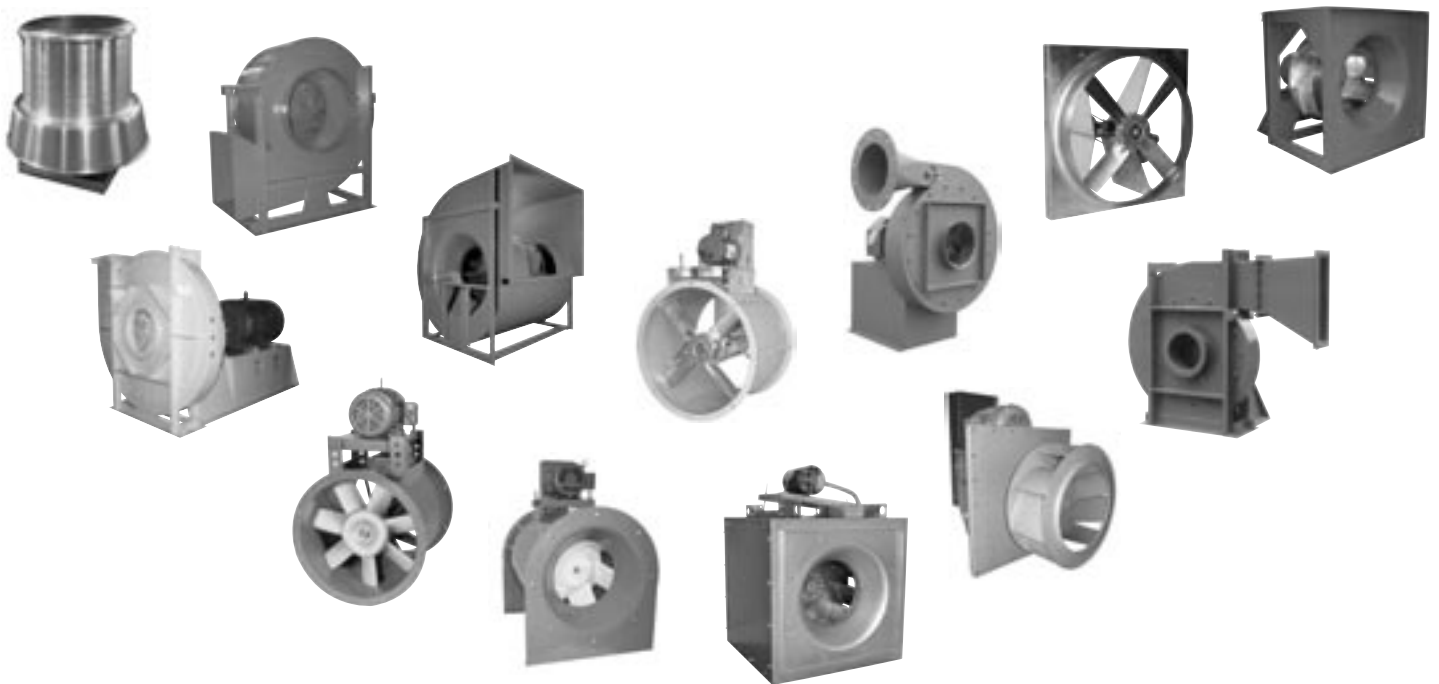
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