

BULLETIN: VB-1100-98
March-98

PVC AND FRP CENTRIFUGAL FANS VCB-SERIES



VIRON®

INTERNATIONAL

PVC AND FRP CENTRIFUGAL FANS



VCB-1100 SERIES

VIRON® INTERNATIONAL is a leading manufacturer of corrosion resistant PVC and FIBERGLASS fans. Our manufacturing facilities in Michigan and Texas operate the most modern equipment and efficient manpower found in the fan industry. Our PVC and FIBERGLASS Centrifugal Fans are produced in 20 standard sizes with wheel diameters ranging from 12" to 80", allowing our fans to produce volumes from 400 to 150,000 CFM

STANDARD DESIGN PARAMETERS:

1. High Efficiency
2. Easy Maintenance
3. Minimum Operating Cost
4. Structural Integrity



VIRON® INTERNATIONAL certifies that the VCB-1100 Series PVC and FRP Centrifugal Fans shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Ratings Program.

SPECIFICATIONS

PVC GENERAL SPECIFICATIONS

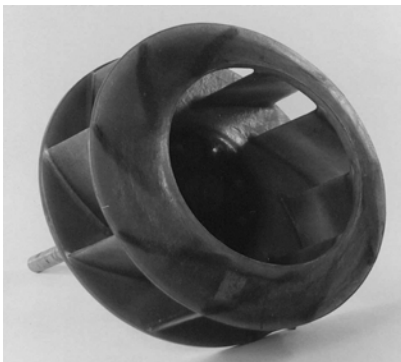
- Corrosion resistant PVC sheet with flame retardant additives will reduce the flame spread rating to below 25. This material is then rated for Class 1 flame spread.
- All structural parts in the airstream are PVC.
- All internal hardware is stainless steel.
- The fan housing is solid PVC sheet using premium grade corrosion resistant material.
- The fan wheel is solid fiberglass using a premium grade corrosion resistant resin. The backward incline wheel design offers efficient, low cost handling of industrial process air or gas. As an option **VIRON®** can manufacture a steel wheel with a PVC coating. The coating thickness will vary from 40 to 100 MILS depending upon the application.
- Maximum temperature limitation is 140°F on all PVC fans.

FRP GENERAL SPECIFICATIONS

- Corrosion resistant polyester resin with flame retardant additives will reduce the flame spread ratings to below 25.
- All structural parts in the airstream are fiberglass and resin.
- All internal hardware is stainless steel.
- The fan housing is solid fiberglass using premium grade corrosion resistant material.
- The fan wheel is solid fiberglass using a premium grade corrosion resistant resin. The backward incline wheel design offers efficient, low cost handling of industrial process air or gas.
- Maximum temperature limitation is 200°F on all fiberglass fans.
- Special high corrosion construction is optional on all **VIRON®** fiberglass air moving equipment.

PVC AND FRP STANDARD SPECIFICATIONS

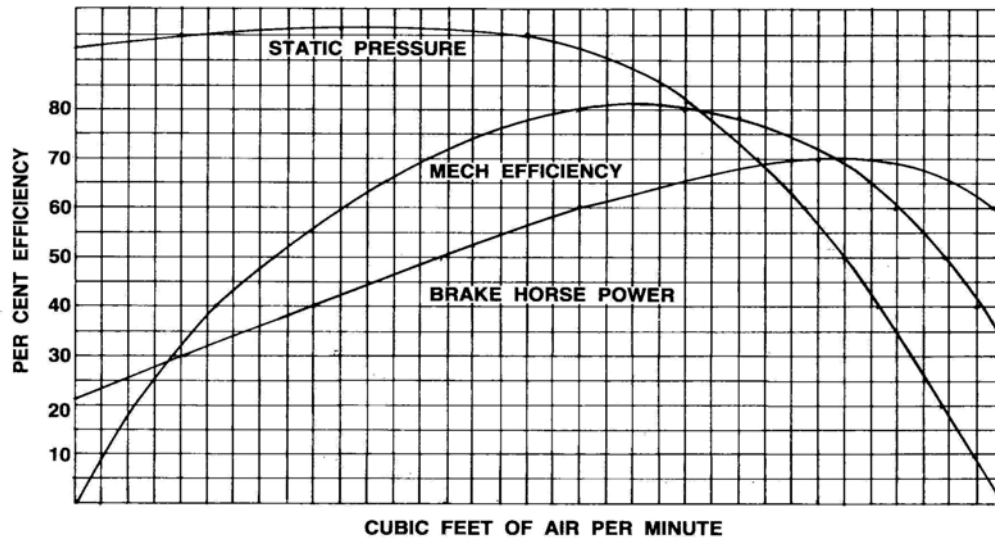
- **Size** - 12" to 80" diameter wheel, 20 convenient sizes to choose from giving you 400 to over 150,000 CFM.
 - **Motor** - All motors are TEFC.
 - **Belts** - All belts are industrial grade V-belt type.
 - **Bearings** - All bearings are heavy duty, self aligning, ball bearing type.
 - **Drain** - All fan housings have 1" drain at the lowest point of the housing.
 - **Hardware** - All hardware is stainless steel.
 - **Wheel** - All fan wheels are dynamically balanced.
 - **Pedestal Base** - All pedestal bases are constructed of heavy gauge steel. The trapezoid design insures smooth performance and structural integrity. An epoxy protective coating is applied to all bases.
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FRP BACKWARD INCLINE WHEEL

The fan wheel is solid fiberglass using a premium grade corrosion resistant resin. This design offers our customers one of the highest efficiencies and quietest operation of any fan wheel manufactured. This wheel has a non-overloading characteristic, and has been proven to save horsepower over the entire volume range.

CENTRIFUGAL FAN PERFORMANCE CURVES



TEMPERATURE AND ALTITUDE CORRECTION DATA CORRECTION FACTOR TABLE

Air Temp. Deg. F	Altitude In Feet Above Sea Level																			
	0	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	10000
0°	.87	.89	.91	.92	.94	.96	.98	.99	1.01	1.03	1.05	1.06	1.09	1.10	1.13	1.15	1.17	1.19	1.22	1.26
40°	.94	.96	.98	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.21	1.23	1.26	1.28	1.30	1.32	1.36
70°	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20	1.22	1.25	1.27	1.30	1.32	1.35	1.37	1.40	1.45
80°	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.21	1.23	1.26	1.28	1.30	1.33	1.36	1.38	1.41	1.43	1.48
100°	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.21	1.23	1.25	1.28	1.30	1.33	1.35	1.38	1.41	1.43	1.46	1.48	1.54
120°	1.09	1.12	1.14	1.16	1.18	1.20	1.23	1.25	1.28	1.30	1.32	1.35	1.38	1.40	1.43	1.46	1.48	1.51	1.53	1.58
140°	1.13	1.15	1.18	1.20	1.22	1.25	1.27	1.29	1.32	1.34	1.37	1.40	1.42	1.45	1.48	1.51	1.54	1.57	1.58	1.65
160°	1.17	1.19	1.22	1.24	1.26	1.29	1.31	1.34	1.36	1.39	1.42	1.44	1.47	1.50	1.53	1.56	1.59	1.62	1.64	1.70
180°	1.21	1.23	1.26	1.28	1.30	1.33	1.36	1.38	1.41	1.43	1.46	1.49	1.52	1.55	1.58	1.61	1.64	1.67	1.70	1.75
200°	1.25	1.27	1.29	1.32	1.34	1.37	1.40	1.42	1.45	1.48	1.51	1.54	1.57	1.60	1.63	1.66	1.69	1.72	1.75	1.81
250°	1.34	1.36	1.39	1.42	1.45	1.47	1.50	1.53	1.56	1.59	1.62	1.65	1.68	1.71	1.74	1.78	1.82	1.85	1.88	1.94
300°	1.43	1.46	1.49	1.52	1.55	1.58	1.61	1.64	1.67	1.70	1.74	1.77	1.80	1.84	1.87	1.91	1.94	1.98	2.00	2.08
350°	1.53	1.56	1.59	1.62	1.65	1.68	1.72	1.75	1.78	1.81	1.85	1.88	1.92	1.96	2.00	2.04	2.07	2.11	2.14	2.22
400°	1.62	1.65	1.69	1.72	1.75	1.79	1.82	1.85	1.89	1.93	1.96	2.00	2.04	2.08	2.12	2.16	2.20	2.25	2.27	2.35
450°	1.72	1.75	1.79	1.82	1.86	1.89	1.93	1.96	2.00	2.04	2.08	2.12	2.16	2.20	2.24	2.29	2.33	2.38	2.41	2.50
500°	1.81	1.85	1.88	1.92	1.96	1.99	2.03	2.07	2.11	2.15	2.19	2.23	2.28	2.32	2.36	2.41	2.46	2.51	2.54	2.62
550°	1.91	1.94	1.98	2.02	2.06	2.10	2.14	2.18	2.22	2.26	2.30	2.35	2.40	2.44	2.49	2.54	2.58	2.63	2.68	2.77
600°	2.00	2.04	2.08	2.12	2.16	2.20	2.24	2.29	2.33	2.38	2.42	2.47	2.50	2.56	2.61	2.66	2.71	2.77	2.80	2.90
650°	2.10	2.14	2.18	2.22	2.26	2.31	2.35	2.40	2.44	2.49	2.54	2.58	2.53	2.68	2.74	2.79	2.84	2.90	2.94	3.04
700°	2.19	2.23	2.27	2.32	2.36	2.41	2.46	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.86	2.91	2.97	3.03	3.06	3.18
750°	2.28	2.33	2.37	2.42	2.47	2.51	2.56	2.61	2.66	2.71	2.76	2.81	2.87	2.92	2.98	3.04	3.10	3.16	3.19	3.31
800°	2.38	2.43	2.48	2.52	2.57	2.62	2.66	2.72	2.76	2.81	2.86	2.90	2.98	3.02	3.10	3.14	3.21	3.26	3.33	3.45
850°	2.47	2.52	2.57	2.62	2.67	2.72	2.76	2.82	2.87	2.92	2.97	3.02	3.09	3.14	3.21	3.26	3.33	3.38	3.46	3.58
900°	2.57	2.62	2.67	2.72	2.76	2.83	2.88	2.93	2.98	3.03	3.08	3.14	3.21	3.26	3.34	3.39	3.47	3.52	3.60	3.73
950°	2.66	2.72	2.77	2.82	2.87	2.92	2.98	3.03	3.08	3.14	3.19	3.24	3.32	3.38	3.46	3.51	3.58	3.64	3.72	3.86
1000°	2.76	2.82	2.87	2.92	2.98	3.04	3.09	3.14	3.20	3.26	3.31	3.37	3.45	3.50	3.59	3.64	3.72	3.78	3.86	4.00

PERFORMANCE AT OTHER THAN STANDARD CONDITIONS

Any particular fan, operating at a constant speed on a fixed system when there is no internal heat exchange involved, will deliver the same volume of air but the static pressure and brake horsepower will vary with the density. The capacity tables in this catalog are based on the fan handling standard air at a density of .075 lbs. per cubic foot corresponding to 70°F, and 29.92" Hg. Barometric Pressure. Therefore, when the fan handles air or other gases at other than standard densities due to temperature, altitude, or the kind of gas, the published tables should be used in the following manner:

General Method

Step 1 Compute the equivalent static pressure in the following manner:

$$\text{Equivalent SP} = \text{Required SP} \times \frac{0.75}{\text{Actual Density}}$$

When both temperature and altitude vary from standard.

$$\text{Actual Density} = \frac{\text{Density at temp.} \times \text{density at alt.}}{.075}$$

(See chart below)

Step 2 Using the required CFM and the equivalent SP, obtain the RPM and BHP from the standard capacity table, interpolating when necessary.

Step 3 The RPM obtained is the correct value.
The BHP obtained must be corrected for the actual density as follows:

$$\text{BHP (from table)} \times \frac{\text{Actual Density}}{.075}$$

Example

To compute the changes in RPM and BHP on a VCB-1140 fan from 17,733 CFM, 1½" s.p. at sea level to operating a fan with 250°F air at 5000' altitude follow steps 1 through 3.

Step 1 Equivalent SP = 1.5 X $\frac{.075}{.0465} = 2.42"$

$$\text{Actual Density} = \frac{.056 \times .0623}{0.075} = .0465$$

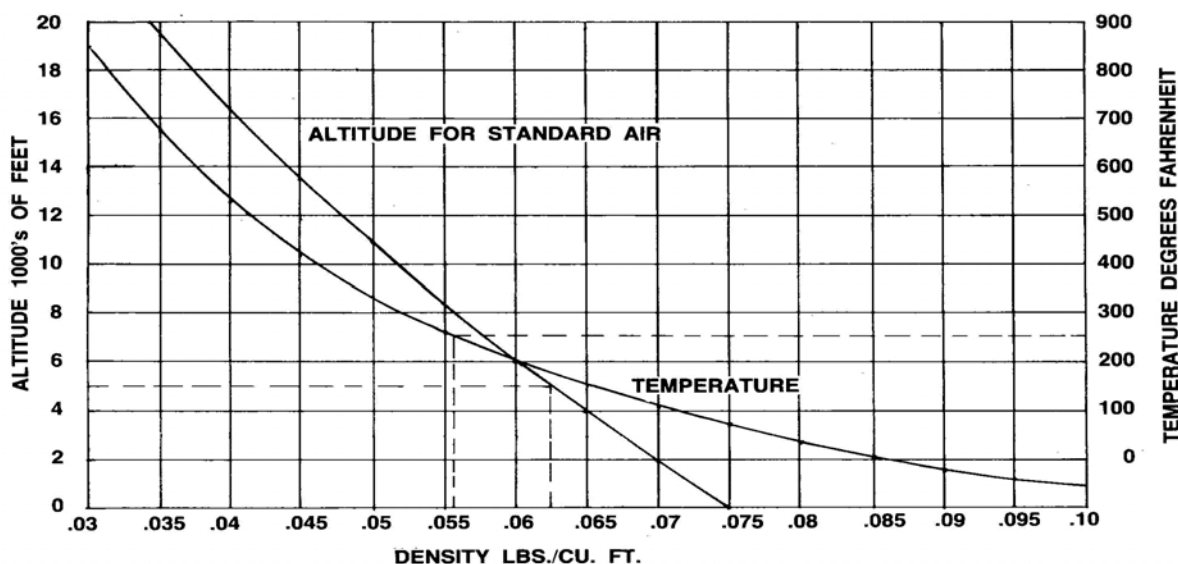
Where .056 is read from temperature curve and .0623 from altitude curve.
(See chart below)

Step 2 From capacity table on page 22, by interpolation:
RPM = 722
BHP = 9.27

Step 3 Actual RPM required = 722

$$\text{Actual BHP} = 9.27 \times \frac{.0465}{0.75} = 5.75$$

Correct performance is: 17,733 CFM, 1½ SP, 722 RPM, 5.75 BHP, when handling air at 250°F., and 5000' elevation.



SELECTION GUIDE

VIRON® MODEL CODE:	VCB	1160	BD	FRP	FRP	9	CW360	50	TEFC	NORM	460	3	60
VIRON® Centrifugal Fan													
Series and Wheel Diameter													
Drive Code													
Housing Material Code													
Fan Wheel Material Code													
Drive Arrangement (see page 7)													
Rotation and Discharge Position (see page 7)													
Motor Horsepower													
Motor Type Code													
Motor Efficiency Code													
Motor Voltage													
Motor Phase													
Motor Cycle													

HOUSING MATERIAL CODE

Fiberglass	FRP
Polyvinyl Chloride	PVC
Polypropylene	PP

MOTOR TYPE CODE

Totally Enclosed Fan Cooled	TEFC
Open Drip Proof	OPEN
Explosion Proof	EXPL
Chemical Duty	CHEM

FAN WHEEL MATERIAL CODE

Fiberglass	FRP
Steel With Polyvinyl Chloride Coated	PVC
Steel With Kynar Coated	KYN
Stainless Steel	SST

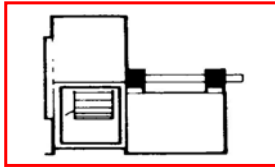
MOTOR EFFICIENCY CODE

Normal Efficiency	NORM
High Efficiency	HIGH

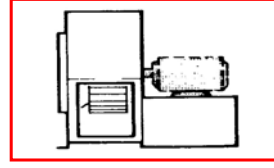
DRIVE CODE

Direct Drive	DD
Belt Drive	BD

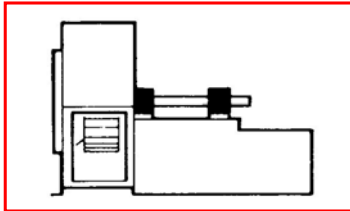
DRIVE ARRANGEMENTS FOR CENTRIFUGAL FANS



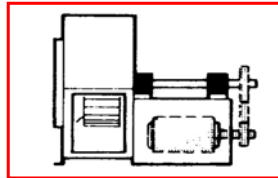
ARR.1 SWSI. For belt drive or direct connection. Impeller overhung. Two bearings on base.



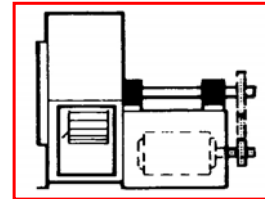
ARR. 4 SWSI. For direct drive. Impeller overhung on prime mover shaft. No bearings on fan. Prime mover base mounted or integrally directly connected.



ARR. 8 SWSI. For belt drive or direct connection. Arrangement 1 plus extended base for prime mover.



ARR. 9 SWSI. For belt drive, impeller overhung, two bearings, with prime mover outside base.



ARR. 10 SWSI. For belt drive, impeller overhung, two bearings, with prime mover inside base.

ROTATION AND DISCHARGE FOR CENTRIFUGAL FANS



Clockwise
Up Blast
CW 360



Clockwise
Top Angular Up
CW 45



Clockwise
Top Horizontal
CW 90



Clockwise
Top Angular Down
CW 135



Clockwise
Down Blast
CW 180



Clockwise
Bottom Angular Down
CW 225



Clockwise
Bottom Horizontal
CW 270



Clockwise
Bottom Angular Up
CW 315



Counterclockwise
Up Blast
CCW 360



Counterclockwise
Top Angular Up
CCW 45



Counterclockwise
Top Horizontal
CCW 90



Counterclockwise
Top Angular Down
CCW 135



Counterclockwise
Down Blast
CCW 180



Counterclockwise
Bottom Angular Down
CCW 225



Counterclockwise
Bottom Horizontal
CCW 270



Counterclockwise
Bottom Angular Up
CCW 315

NOTES:

1. Direction of rotation is determined from drive side of fan.
2. On single inlet fans, drive side is always considered as the side opposite fan inlet.

FAN ACCESSORIES



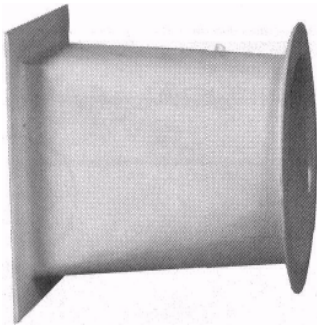
PARALLEL BLADE OUTLET DAMPER

The **VIRON®** Parallel Blade Outlet Damper is fabricated from Fiberglass Reinforced Plastic (FRP). It is designed to control the volume of corrosive fumes exiting the VCB Series fans. The linkage is placed outside the airstream for easy maintenance and long life.



COMMON STEEL BASE

All **VIRON®** VCB Series fans come standard with Common Steel Bases. This adds structural rigidity and helps distribute the weight on a more even basis. When you need to mount the fan from the Common Steel Base, the factory can supply a heavier frame to accommodate any design criteria.



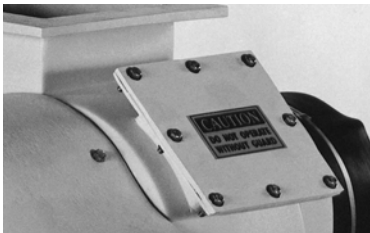
OUTLET TRANSITION

In many instances the installing contractor may want to put a stack off the fan outlet. **VIRON®** can manufacture a standard Outlet Transition to accommodate the rectangular fan outlet to a round duct stack.



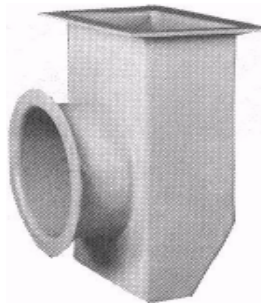
FLANGED INLET

A permanent bonded inlet flange is available for use by the installing contractor to mount an Inlet Duct or Inlet Plenum Box so a portion of the duct can be removable for future maintenance.



BOLTED CLEANOUT DOOR

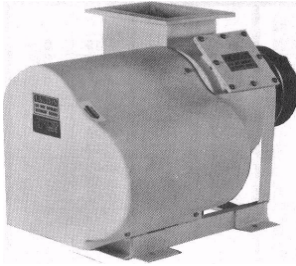
In order to properly maintain your fan you must visually inspect the fan wheel on a monthly basis, to do this **VIRON** offers a Bolted Cleanout Door. The Bolted Cleanout Door is fabricated into the rounded portion of the fan scroll. This allows your maintenance personnel to get the closest view of the fan wheel. Standard hardware is type 304 stainless steel with PVC closed cell gasket material.



INLET PLENUM BOX

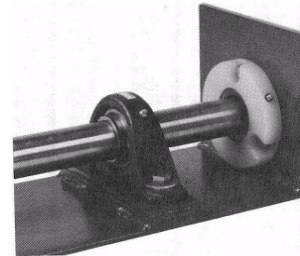
When there is not room to adequately design the inlet duct to a fan, **VIRON®** offers an Inlet Plenum Box. This Fiberglass Reinforced Plastic (FRP) fabricated box can be mounted to accommodate a duct coming from any direction, and still minimize the pressure loss associated with tight design parameters.

FAN ACCESSORIES



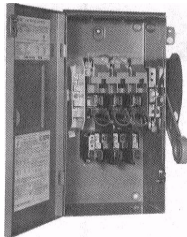
WEATHER COVER

All VCB Series Fans can be shipped with a complete weather cover. This weather cover protects the shaft, bearings, sheaves, drives, belts, and motors. It is available in all sizes.



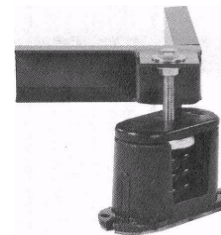
VITON SHAFT SEAL

In certain applications, it is important to keep fumes from escaping through the interface area of the shaft and the fan housing. By utilizing this positive shaft seal, you can keep fumes contained and away from your bearings which help operate your fan.



ELECTRICAL DISCONNECT SWITCH

Frequently fans are installed at remote locations. When this happens, **VIRON®** can mount an Electrical Disconnect Switch to the fan. This safety device can help insure your workers safety when periodic maintenance is required.



VIBRATION ISOLATION

A variety of different Vibration Isolation products are available for your **VIRON®** VCB Series Fans. The list of products can range from neoprene pads to 4" spring isolators with seismic restraints.

OTHER POPULAR FAN ACCESSORIES

Adjustable V-Belt Drives
Belt Guard
Butterfly Stack Cap
Class III Wheels
Flange Inlet
Flange Inlet Drilling
Flex Inlet Connections
Hinged Access Door
Inlet Flange Gasket
Inspection Port
Motor Speed Controls

Motors:
ODP
TEFC
High Efficiency TEFC
2 Speed - 1800/900 & 1800/1200
Explosion Proof
Chemical Duty
Outlet Flange Drilling
Outlet Flange Gasket
PVC Shaft Seal
Rubber Mount Vibration Isolators

Shaft Guard
Special Belts
Special Lifting Lugs
Special Sliding Bases (for motors)
Stainless Steel Shaft
Starter
Static Grounding Graphite Coating
Teflon Shaft Seal
Veil Interior
Vinyl Ester Resin

VCB-1112

Wheel Diameter
12 1/4" Ø I. D.

INLET 12-7/8" Ø I.D.
OUTLET 9-3/4" x 12-3/4" I.D.

Area .90 Sq. Ft.
Area .86 Sq. Ft.

Tip Speed = RPM X 3.21
Max BHP = .07 RPM³
1000

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
432	500	1007	0.06	1183	0.09	1349	0.12	1644	0.21								
518	600	1067	0.07	1227	0.10	1374	0.14	1652	0.22	1924	0.34						
604	700	1139	0.08	1284	0.12	1420	0.16	1670	0.24	1908	0.35	2142	0.47	2315	0.58		
690	800	1212	0.10	1352	0.14	1477	0.18	1711	0.27	1926	0.37	2134	0.49	2339	0.62	2543	0.78
777	900	1276	0.12	1426	0.16	1543	0.21	1762	0.30	1964	0.41	2155	0.52	2341	0.65	2524	0.80
863	1000	1326	0.14	1499	0.19	1618	0.24	1822	0.34	2014	0.45	2193	0.56	2365	0.69	2533	0.83
949	1100	1390	0.16	1562	0.22	1692	0.27	1888	0.38	2070	0.49	2242	0.61	2405	0.74	2562	0.88
1036	1200	1464	0.19	1610	0.24	1763	0.31	1963	0.43	2133	0.54	2297	0.67	2454	0.80	2603	0.95
1122	1300	1548	0.22	1670	0.28	1817	0.34	2037	0.48	2203	0.60	2358	0.73	2507	0.87	2652	1.02
1208	1400	1634	0.26	1740	0.32	1867	0.38	2110	0.53	2278	0.67	2424	0.80	2568	0.94	2706	1.09
1295	1500	1724	0.30	1818	0.36	1928	0.43	2180	0.58	2352	0.73	2498	0.88	2633	1.03	2766	1.18
1381	1600	1814	0.35	1902	0.41	1997	0.48	2229	0.64	2424	0.80	2572	0.96	2704	1.11	2830	1.27
1467	1700	1906	0.41	1989	0.47	2073	0.54	2279	0.69	2495	0.88	2646	1.04	2779	1.21	2899	1.37
1553	1800	2000	0.47	2078	0.53	2156	0.60	2337	0.76	2553	0.95	2718	1.13	2853	1.31	2974	1.48
1640	1900	2094	0.54	2168	0.60	2242	0.68	2403	0.83	2599	1.02	2789	1.22	2926	1.41	3049	1.60
1726	2000	2188	0.61	2259	0.68	2329	0.76	2475	0.92	2652	1.10	2849	1.31	2998	1.52	3122	1.72
1812	2100	2283	0.69	2352	0.77	2418	0.84	2554	1.01	2712	1.19	2893	1.40	3068	1.63	3195	1.84
1899	2200	2379	0.78	2445	0.86	2509	0.94	2637	1.11	2779	1.29	2945	1.50	3125	1.73	3266	1.96
1985	2300	2475	0.87	2539	0.96	2600	1.04	2722	1.21	2851	1.40	3002	1.60	3169	1.84	3336	2.09
2071	2400	2572	0.98	2633	1.06	2692	1.15	2809	1.33	2929	1.52	3066	1.72	3220	1.95	3385	2.21
2158	2500	2669	1.09	2728	1.18	2785	1.27	2897	1.45	3011	1.65	3135	1.86	3277	2.08	3431	2.33
2244	2600	2766	1.21	2823	1.30	2879	1.40	2987	1.59	3095	1.79	3209	2.00	3340	2.22	3483	2.47
2330	2700	2863	1.34	2919	1.43	2973	1.53	3077	1.73	3181	1.93	3288	2.15	3407	2.38	3540	2.62
2416	2800	2961	1.48	3015	1.58	3068	1.68	3169	1.88	3269	2.09	3371	2.31	3479	2.54	3602	2.79
2589	3000	3157	1.78	3208	1.89	3258	2.00	3354	2.22	3447	2.44	3541	2.67	3637	2.90	3740	3.16
2762	3200	3354	2.13	3403	2.25	3450	2.36	3541	2.60	3629	2.83	3716	3.07	3804	3.31	3895	3.57
2934	3400	3551	2.52	3598	2.65	3643	2.77	3729	3.02	3813	3.27	3895	3.52	3978	3.77	4061	4.04
3107	3600	3749	2.96	3794	3.09	3837	3.23	3919	3.49	3999	3.75	4077	4.01	4155	4.28	4233	4.55
3279	3800	3947	3.45	3990	3.59	4031	3.73	4111	4.01	4187	4.28	4262	4.56	4335			

VCB-1113

Wheel Diameter
14 1/4" Ø I. D.

INLET 14-1/4"Ø I.D.
OUTLET 10-3/4" x 14" I.D.

Area 1.10 Sq. Ft.
Area 1.04 Sq. Ft.

Tip Speed = RPM X 3.54
Max BHP = .12 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
523	500	913	0.07	1073	0.10	1224	0.15	1490	0.25								
627	600	967	0.08	1112	0.12	1246	0.17	1499	0.27	1746	0.41						
732	700	1032	0.10	1164	0.14	1288	0.19	1515	0.29	1731	0.42	1944	0.57	2099	0.70		
836	800	1098	0.12	1225	0.17	1339	0.22	1551	0.33	1747	0.45	1937	0.59	2123	0.76	2309	0.95
940	900	1157	0.14	1293	0.20	1399	0.25	1598	0.36	1781	0.49	1955	0.63	2124	0.79	2290	0.97
1045	1000	1201	0.17	1358	0.23	1466	0.29	1652	0.41	1826	0.54	1989	0.68	2146	0.84	2298	1.01
1150	1100	1259	0.19	1417	0.26	1533	0.33	1712	0.46	1877	0.60	2033	0.74	2181	0.90	2323	1.07
1254	1200	1326	0.23	1459	0.30	1597	0.37	1779	0.52	1934	0.66	2082	0.81	2225	0.97	2360	1.15
1359	1300	1401	0.27	1513	0.34	1647	0.42	1846	0.58	1996	0.73	2137	0.89	2273	1.05	2405	1.23
1463	1400	1480	0.32	1576	0.38	1692	0.46	1912	0.64	2064	0.81	2197	0.97	2328	1.14	2453	1.32
1567	1500	1560	0.37	1647	0.44	1747	0.52	1975	0.71	2131	0.89	2263	1.06	2386	1.24	2507	1.43
1672	1600	1642	0.43	1722	0.50	1809	0.58	2021	0.77	2197	0.97	2331	1.16	2450	1.35	2566	1.54
1776	1700	1726	0.49	1801	0.57	1878	0.65	2065	0.84	2261	1.06	2398	1.26	2518	1.46	2627	1.66
1881	1800	1810	0.57	1881	0.65	1952	0.73	2118	0.92	2315	1.15	2463	1.37	2585	1.58	2695	1.79
1985	1900	1895	0.65	1962	0.73	2030	0.82	2177	1.01	2355	1.23	2527	1.48	2651	1.71	2763	1.93
2090	2000	1980	0.73	2045	0.82	2109	0.91	2242	1.11	2403	1.33	2583	1.59	2717	1.84	2829	2.07
2195	2100	2067	0.83	2129	0.92	2189	1.02	2313	1.22	2458	1.44	2623	1.69	2780	1.97	2895	2.22
2299	2200	2153	0.94	2213	1.03	2271	1.13	2388	1.33	2518	1.56	2669	1.81	2833	2.10	2960	2.37
2404	2300	2240	1.05	2298	1.15	2354	1.25	2465	1.46	2583	1.69	2721	1.94	2873	2.22	3023	2.53
2508	2400	2327	1.18	2383	1.28	2437	1.39	2543	1.60	2653	1.83	2778	2.08	2919	2.36	3069	2.68
2613	2500	2415	1.31	2469	1.42	2521	1.53	2623	1.75	2727	1.99	2840	2.24	2970	2.52	3110	2.82
2717	2600	2503	1.45	2555	1.57	2606	1.68	2704	1.91	2803	2.16	2906	2.41	3026	2.69	3156	2.99
2822	2700	2591	1.61	2642	1.73	2691	1.85	2786	2.09	2880	2.33	2978	2.59	3087	2.87	3208	3.17
2926	2800	2679	1.78	2729	1.90	2776	2.02	2868	2.27	2959	2.52	3052	2.79	3152	3.07	3264	3.37
3135	3000	2857	2.15	2904	2.28	2949	2.41	3036	2.68	3121	2.94	3206	3.22	3293	3.51	3388	3.81
3344	3200	3035	2.56	3079	2.71	3122	2.85	3205	3.13	3285	3.41	3364	3.70	3445	4.00	3527	4.31
3553	3400	3213	3.04	3256	3.19	3297	3.34	3375	3.64	3451	3.94	3526	4.24	3601	4.55	3677	4.87
3762	3600	3392	3.57	3433	3.73	3472	3.89	3547	4.20	3620	4.52	3691	4.84	3762	5.16	3833	5.49
3971	3800	3572	4.15	3611	4.33	3648	4.50	3720	4.83	3790	5.16	385					

VCB-1115

Wheel Diameter
15-5/16" Ø I. D.

INLET 15-5/16"Ø I.D.
OUTLET 11-3/4" x 15-5/8" I.D.

Area 1.27 Sq. Ft.
Area 1.27 Sq. Ft.

Tip Speed = RPM X 3.93
Max BHP = .21 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
637	500	819	0.08	964	0.13	1102	0.18	1334	0.31	1564	0.50	1752	0.71				
764	600	866	0.10	998	0.15	1119	0.20	1349	0.34	1564	0.50						
892	700	923	0.12	1043	0.17	1155	0.23	1361	0.36	1558	0.52						
1019	800	983	0.15	1096	0.20	1200	0.26	1392	0.40	1570	0.55	1742	0.73	1912	0.93	2075	1.16
1147	900	1038	0.17	1157	0.24	1253	0.30	1433	0.44	1599	0.60	1757	0.77	1910	0.97	2062	1.19
1274	1000	1076	0.20	1215	0.28	1312	0.35	1480	0.50	1638	0.66	1786	0.84	1928	1.03	2066	1.24
1401	1100	1125	0.24	1270	0.32	1371	0.40	1533	0.56	1682	0.73	1824	0.91	1958	1.10	2087	1.31
1529	1200	1184	0.28	1307	0.36	1429	0.45	1592	0.63	1732	0.80	1867	0.99	1996	1.19	2119	1.40
1656	1300	1250	0.32	1353	0.41	1477	0.50	1652	0.70	1786	0.88	1915	1.08	2038	1.28	2158	1.50
1784	1400	1319	0.38	1408	0.46	1515	0.56	1710	0.78	1847	0.98	1968	1.18	2086	1.39	2200	1.61
1911	1500	1391	0.44	1469	0.53	1562	0.62	1767	0.86	1907	1.08	2026	1.29	2138	1.51	2247	1.74
2038	1600	1463	0.51	1536	0.60	1616	0.70	1811	0.93	1965	1.18	2086	1.41	2193	1.64	2298	1.87
2166	1700	1537	0.59	1605	0.68	1676	0.78	1849	1.01	2023	1.28	2145	1.53	2253	1.78	2352	2.02
2293	1800	1612	0.68	1676	0.77	1742	0.88	1895	1.11	2076	1.39	2204	1.66	2313	1.92	2412	2.18
2421	1900	1687	0.77	1749	0.88	1810	0.98	1946	1.22	2110	1.49	2261	1.79	2372	2.07	2472	2.34
2548	2000	1763	0.88	1822	0.99	1880	1.10	2003	1.33	2152	1.61	2317	1.93	2430	2.23	2531	2.52
2675	2100	1840	0.99	1896	1.11	1951	1.22	2064	1.46	2198	1.74	2351	2.05	2487	2.39	2590	2.69
2803	2200	1916	1.12	1971	1.24	2024	1.36	2130	1.61	2251	1.88	2390	2.19	2541	2.55	2648	2.88
2930	2300	1994	1.26	2046	1.38	2097	1.50	2198	1.76	2307	2.04	2435	2.35	2575	2.70	2704	3.07
3058	2400	2071	1.40	2122	1.53	2171	1.66	2268	1.93	2368	2.21	2484	2.52	2614	2.86	2752	3.25
3185	2500	2149	1.56	2198	1.70	2245	1.83	2338	2.11	2433	2.39	2538	2.71	2658	3.05	2787	3.43
3312	2600	2227	1.74	2274	1.88	2320	2.02	2410	2.30	2500	2.59	2596	2.91	2707	3.25	2826	3.62
3440	2700	2305	1.92	2351	2.07	2396	2.21	2482	2.50	2569	2.81	2658	3.13	2759	3.47	2871	3.84
3567	2800	2384	2.12	2429	2.27	2472	2.42	2556	2.72	2639	3.03	2723	3.36	2816	3.70	2919	4.07
3822	3000	2541	2.56	2584	2.72	2625	2.88	2704	3.20	2781	3.53	2859	3.87	2939	4.22	3027	4.60
4077	3200	2699	3.06	2740	3.23	2779	3.40	2854	3.75	2927	4.09	2999	4.45	3072	4.81	3148	5.19
4332	3400	2858	3.62	2896	3.81	2934	3.99	3005	4.35	3074	4.72	3143	5.09	3211	5.47	3281	5.86
4586	3600	3017	4.25	3054	4.45	3089	4.64	3158	5.03	3224	5.41	3288	5.80	3353	6.20	3418	6.60
4841	3800	3176	4.95	3211	5.16	3246	5.36	3311	5.77	3374	6.18	3436	6.59	3497	7.00	3558	7.42
5096	4000	3336	5.72	3370	5.95	3403	6.16	3466	6.59	3526	7.02	3585	7.45	3644	7.88	3702	8.32
Volume CFM																	

VCB-1116

Wheel Diameter
16-1/2"

INLET 17-3/8" Ø I.D.
OUTLET 13-1/8" x 17-1/8" I.D.

Area 1.65 Sq. Ft.
Area 1.56 Sq. Ft.

Tip Speed = RPM X 4.32
Max BHP = .33 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
780	500	707	0.09	851	0.15	987	0.22	1217	0.38								
936	600	740	0.11	863	0.17	984	0.24	1211	0.41	1427	0.62						
1092	700	786	0.13	892	0.19	998	0.26	1204	0.42	1397	0.63	1584	0.87	1713	1.07		
1248	800	839	0.16	935	0.22	1027	0.29	1214	0.46	1390	0.65	1560	0.88	1725	1.14	1885	1.44
1404	900	895	0.20	985	0.26	1069	0.33	1232	0.50	1398	0.69	1554	0.91	1706	1.16	1854	1.44
1560	1000	952	0.24	1039	0.31	1117	0.38	1266	0.55	1414	0.74	1562	0.97	1702	1.21	1840	1.48
1716	1100	1011	0.28	1095	0.36	1170	0.44	1308	0.61	1441	0.80	1577	1.03	1711	1.27	1840	1.54
1872	1200	1070	0.33	1152	0.42	1225	0.51	1356	0.69	1480	0.88	1602	1.10	1727	1.34	1850	1.61
2028	1300	1130	0.39	1210	0.48	1281	0.58	1407	0.77	1524	0.97	1637	1.19	1750	1.43	1866	1.70
2184	1400	1192	0.45	1270	0.56	1338	0.66	1461	0.86	1573	1.07	1680	1.30	1784	1.54	1889	1.80
2340	1500	1254	0.52	1329	0.63	1397	0.74	1517	0.96	1624	1.19	1726	1.42	1826	1.66	1923	1.92
2496	1600	1318	0.60	1389	0.72	1456	0.84	1573	1.07	1678	1.31	1776	1.55	1870	1.80	1963	2.06
2652	1700	1382	0.69	1450	0.82	1516	0.94	1631	1.19	1734	1.44	1828	1.69	1919	1.95	2007	2.22
2808	1800	1447	0.79	1513	0.92	1575	1.05	1689	1.32	1790	1.58	1883	1.85	1970	2.11	2054	2.39
2964	1900	1513	0.90	1576	1.04	1636	1.17	1748	1.46	1847	1.73	1938	2.01	2023	2.29	2105	2.57
3120	2000	1580	1.02	1640	1.16	1698	1.31	1808	1.60	1905	1.89	1994	2.19	2078	2.48	2157	2.78
3276	2100	1647	1.15	1704	1.30	1760	1.45	1867	1.76	1963	2.07	2051	2.37	2133	2.68	2211	2.99
3432	2200	1714	1.29	1770	1.45	1823	1.60	1927	1.93	2022	2.25	2108	2.57	2189	2.90	2266	3.22
3588	2300	1782	1.45	1835	1.61	1887	1.77	1987	2.11	2082	2.45	2167	2.78	2246	3.12	2322	3.46
3744	2400	1850	1.61	1902	1.78	1952	1.95	2049	2.30	2141	2.65	2226	3.01	2304	3.36	2378	3.71
3900	2500	1919	1.79	1968	1.97	2017	2.15	2111	2.51	2201	2.87	2285	3.24	2362	3.61	2435	3.97
4056	2600	1988	1.99	2036	2.17	2083	2.35	2174	2.73	2261	3.11	2345	3.49	2421	3.87	2493	4.25
4212	2700	2057	2.20	2103	2.39	2149	2.58	2237	2.96	2322	3.35	2404	3.75	2480	4.15	2551	4.55
4368	2800	2126	2.42	2171	2.62	2215	2.81	2301	3.21	2383	3.62	2463	4.03	2540	4.45	2610	4.85
4680	3000	2265	2.92	2308	3.12	2349	3.33	2430	3.76	2508	4.19	2584	4.63	2658	5.07	2729	5.52
4992	3200	2406	3.48	2445	3.70	2484	3.92	2561	4.37	2635	4.83	2708	5.29	2778	5.76	2847	6.24
5304	3400	2546	4.11	2584	4.35	2621	4.58	2693	5.06	2764	5.54	2833	6.03	2901	6.53	2967	7.03
5616	3600	2687	4.82	2723	5.07	2758	5.32	2827	5.82	2895	6.33	2961	6.85	3025	7.37	3089	7.89
5928	3800	2829	5.61	2863	5.87												

VCB-1118

Wheel Diameter
18-1/4"

INLET 19" Ø I.D.
OUTLET 14-1/2" x 19" I.D.

Area 1.97 Sq. Ft.
Area 1.90 Sq. Ft.

Tip Speed = RPM X 4.78
Max BHP = .57 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
950	500	639	0.11	769	0.18	893	0.27	1098	0.47								
1140	600	668	0.13	780	0.21	890	0.29	1096	0.50	1290	0.76						
1330	700	709	0.16	806	0.23	902	0.32	1088	0.52	1264	0.76	1433	1.06	1546	1.30		
1520	800	757	0.20	844	0.27	927	0.36	1097	0.56	1256	0.80	1411	1.07	1560	1.40	1706	1.77
1710	900	807	0.24	889	0.32	965	0.41	1113	0.60	1263	0.85	1405	1.11	1543	1.42	1677	1.76
1900	1000	859	0.29	937	0.38	1008	0.47	1143	0.67	1277	0.91	1411	1.18	1539	1.47	1664	1.80
2090	1100	912	0.34	987	0.44	1055	0.54	1181	0.75	1302	0.98	1425	1.25	1547	1.55	1663	1.87
2280	1200	965	0.40	1039	0.51	1105	0.62	1223	0.84	1336	1.07	1447	1.34	1561	1.64	1672	1.97
2470	1300	1019	0.47	1091	0.59	1155	0.70	1269	0.94	1376	1.18	1478	1.45	1581	1.74	1686	2.07
2660	1400	1074	0.55	1145	0.67	1207	0.80	1318	1.05	1419	1.30	1516	1.58	1611	1.87	1706	2.19
2850	1500	1130	0.63	1198	0.77	1260	0.90	1368	1.17	1465	1.44	1558	1.72	1648	2.02	1736	2.34
3040	1600	1187	0.73	1252	0.87	1313	1.02	1419	1.30	1514	1.59	1602	1.88	1688	2.19	1772	2.51
3230	1700	1245	0.84	1307	0.99	1366	1.14	1470	1.45	1564	1.75	1649	2.05	1731	2.37	1812	2.70
3420	1800	1304	0.96	1363	1.12	1420	1.28	1523	1.60	1614	1.92	1698	2.24	1777	2.57	1854	2.90
3610	1900	1363	1.09	1420	1.25	1475	1.42	1576	1.77	1665	2.10	1748	2.44	1825	2.78	1899	3.13
3800	2000	1423	1.23	1477	1.41	1530	1.58	1630	1.94	1717	2.30	1798	2.66	1874	3.01	1946	3.37
3990	2100	1483	1.39	1535	1.57	1586	1.76	1683	2.13	1770	2.51	1849	2.88	1924	3.26	1994	3.63
4180	2200	1544	1.56	1594	1.75	1643	1.94	1737	2.34	1823	2.73	1901	3.12	1974	3.52	2044	3.91
4370	2300	1605	1.75	1653	1.95	1701	2.15	1791	2.55	1877	2.97	1954	3.38	2026	3.79	2094	4.20
4560	2400	1666	1.95	1713	2.16	1759	2.36	1846	2.79	1930	3.22	2007	3.65	2077	4.08	2145	4.50
4750	2500	1728	2.17	1773	2.38	1817	2.60	1902	3.04	1984	3.48	2060	3.94	2130	4.38	2196	4.82
4940	2600	1790	2.40	1833	2.63	1876	2.85	1959	3.30	2038	3.77	2114	4.24	2183	4.70	2248	5.16
5130	2700	1852	2.66	1894	2.89	1935	3.12	2015	3.59	2093	4.07	2167	4.55	2236	5.04	2300	5.52
5320	2800	1914	2.93	1955	3.16	1995	3.40	2073	3.89	2148	4.38	2220	4.89	2290	5.40	2353	5.89
5700	3000	2040	3.52	2078	3.78	2116	4.03	2189	4.55	2260	5.08	2329	5.61	2396	6.15	2460	6.70
6080	3200	2166	4.20	2202	4.47	2237	4.75	2307	5.30	2375	5.85	2440	6.42	2504	6.99	2567	7.57
6460	3400	2292	4.97	2326	5.25	2360	5.54	2426	6.12	2490	6.71	2553	7.31	2614	7.91	2674	8.52
6840	3600	2419	5.82	2452	6.13	2484	6.43	2546	7.05	2608	7.67	2668	8.29	2726	8.93	2784	9.56
7220	3800	2547	6.77	2577	7.09	2608	7.42	2668	8.06	2726	8.72	2784	9.37	2840	10.04	2895	10.71
7600	4000	2675	7.83	2704	8.16	2733	8.										

VCB-1120

Wheel Diameter
21"Ø I. D.

INLET 21" Ø I.D.
OUTLET 15-7/8" x 20-7/8" I.D.

Area 2.40 Sq. Ft.
Area 2.30 Sq. Ft.

Tip Speed = RPM X 5.24
Max BHP = .90 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1150	500	583	0.14	702	0.22	814	0.33	1005	0.57								
1380	600	611	0.16	713	0.25	812	0.35	999	0.60	1177	0.92						
1610	700	650	0.20	737	0.28	824	0.38	993	0.63	1153	0.92	1306	1.28	1415	1.58		
1840	800	694	0.24	773	0.33	848	0.43	1002	0.67	1146	0.96	1286	1.29	1422	1.68	1554	2.12
2070	900	740	0.29	814	0.39	883	0.49	1017	0.73	1153	1.02	1282	1.34	1407	1.71	1529	2.12
2300	1000	787	0.35	859	0.46	923	0.57	1045	0.81	1167	1.09	1289	1.42	1405	1.78	1518	2.17
2530	1100	836	0.42	905	0.53	967	0.65	1081	0.91	1190	1.19	1302	1.51	1412	1.87	1518	2.26
2760	1200	885	0.49	962	0.62	1012	0.75	1120	1.01	1222	1.30	1322	1.62	1425	1.98	1527	2.38
2990	1300	935	0.57	1001	0.72	1059	0.86	1163	1.14	1259	1.43	1352	1.75	1445	2.11	1540	2.50
3220	1400	986	0.67	1050	0.82	1107	0.97	1208	1.28	1299	1.58	1388	1.91	1474	2.26	1560	2.65
3450	1500	1037	0.78	1099	0.94	1156	1.10	1254	1.42	1342	1.75	1426	2.09	1508	2.45	1588	2.83
3680	1600	1090	0.89	1149	1.07	1204	1.24	1301	1.59	1387	1.93	1467	2.28	1545	2.65	1621	3.04
3910	1700	1143	1.03	1200	1.21	1253	1.39	1348	1.76	1433	2.13	1511	2.50	1585	2.88	1658	3.27
4140	1800	1197	1.17	1251	1.36	1303	1.56	1397	1.95	1479	2.34	1556	2.73	1628	3.12	1697	3.53
4370	1900	1252	1.33	1304	1.53	1353	1.74	1446	2.15	1527	2.56	1602	2.97	1672	3.38	1739	3.80
4600	2000	1307	1.51	1356	1.72	1404	1.93	1495	2.37	1575	2.80	1648	3.23	1717	3.67	1783	4.10
4830	2100	1363	1.70	1410	1.92	1456	2.15	1544	2.60	1623	3.06	1695	3.51	1763	3.96	1827	4.42
5060	2200	1418	1.91	1464	2.14	1508	2.38	1593	2.85	1672	3.33	1743	3.80	1810	4.28	1873	4.76
5290	2300	1475	2.14	1519	2.38	1561	2.62	1644	3.12	1722	3.62	1791	4.12	1857	4.61	1919	5.11
5520	2400	1531	2.39	1573	2.64	1615	2.89	1694	3.40	1770	3.93	1840	4.45	1905	4.96	1966	5.48
5750	2500	1588	2.66	1629	2.92	1669	3.18	1746	3.71	1820	4.25	1889	4.80	1953	5.33	2013	5.87
5980	2600	1645	2.95	1684	3.22	1723	3.49	1798	4.04	1870	4.60	1939	5.17	2002	5.73	2061	6.29
6210	2700	1702	3.26	1740	3.54	1778	3.82	1850	4.38	1920	4.96	1988	5.55	2051	6.14	2109	6.72
6440	2800	1760	3.59	1797	3.88	1833	4.17	1903	4.76	1971	5.35	2037	5.96	2100	6.58	2158	7.18
6900	3000	1875	4.32	1910	4.63	1944	4.94	2010	5.57	2075	6.20	2137	6.85	2198	7.50	2256	8.16
7360	3200	1991	5.16	2024	5.49	2056	5.82	2119	6.48	2180	7.15	2240	7.83	2298	8.53	2354	9.23
7820	3400	2108	6.10	2138	6.44	2169	6.79	2228	7.50	2287	8.21	2344	8.93	2399	9.66	2454	10.39
8280	3600	2224	7.15	2254	7.52	2282	7.89	2339	8.63	2395	9.38	2449	10.14	2502	10.90	2555	11.68
8740	3800	2342	8.32	2369	8.71	2397	9.10	2451	9.88	2504	10.67	2556	11.46	2607	12.27	2657	13.08
9200	4000	2459	9.61	2486	10.02	2512	10.43	2563	11.25	2614	12.08						

VCB-1122

Wheel Diameter
22-1/4" Ø I. D.

INLET 24" Ø I.D.
OUTLET 17-5/8" x 23-1/4" I.D.

Area 3.14 Sq. Ft.
Area 2.83 Sq. Ft.

Tip Speed = RPM X 5.83
Max BHP = 1.54 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1415	500	524	0.17	631	0.27	732	0.40	901	0.70								
1698	600	548	0.20	640	0.31	730	0.43	899	0.74	1059	1.14						
1981	700	582	0.24	661	0.35	740	0.47	893	0.77	1037	1.14	1175	1.58	1269	1.94		
2264	800	622	0.30	693	0.41	761	0.53	900	0.83	1131	1.18	1157	1.60	1279	2.08	1399	2.63
2547	900	663	0.36	730	0.48	792	0.61	913	0.90	1036	1.26	1152	1.66	1265	2.11	1375	2.62
2830	1000	705	0.43	769	0.56	827	0.70	938	1.00	1048	1.35	1158	1.75	1262	2.19	1365	2.68
3113	1100	749	0.51	811	0.66	866	0.80	969	1.11	1068	1.46	1169	1.86	1269	2.31	1364	2.79
3396	1200	793	0.60	853	0.76	907	0.92	1004	1.25	1097	1.60	1187	1.99	1280	2.44	1372	2.93
3679	1300	837	0.70	896	0.88	949	1.05	1042	1.40	1129	1.76	1213	2.16	1297	2.59	1383	3.08
3962	1400	882	0.82	940	1.01	991	1.19	1082	1.56	1165	1.94	1245	2.35	1322	2.79	1400	3.26
4245	1500	928	0.95	964	1.15	1034	1.35	1123	1.75	1203	2.15	1279	2.57	1353	3.01	1425	3.48
4528	1600	975	1.09	1029	1.30	1078	1.52	1165	1.94	1243	2.37	1315	2.80	1386	3.26	1454	3.74
4811	1700	1023	1.25	1074	1.48	1122	1.70	1208	2.16	1284	2.61	1354	3.06	1421	3.53	1487	4.02
5094	1800	1071	1.43	1120	1.67	1166	1.91	1251	2.39	1325	2.86	1394	3.34	1459	3.83	1522	4.33
5377	1900	1120	1.63	1166	1.87	1211	2.12	1294	2.63	1368	3.14	1435	3.64	1498	4.15	1559	4.67
5660	2000	1169	1.84	1214	2.10	1257	2.36	1339	2.90	1410	3.43	1477	3.96	1539	4.50	1598	5.03
5943	2100	1219	2.08	1262	2.35	1303	2.62	1382	3.18	1454	3.74	1519	4.30	1580	4.86	1638	5.42
6226	2200	1269	2.33	1310	2.62	1350	2.90	1426	3.49	1497	4.08	1561	4.66	1621	5.24	1679	5.83
6509	2300	1319	2.61	1358	2.91	1397	3.20	1471	3.81	1542	4.43	1604	5.04	1663	5.65	1720	6.26
6792	2400	1369	2.92	1407	3.22	1445	3.53	1517	4.16	1585	4.80	1648	5.44	1706	6.08	1761	6.72
7075	2500	1420	3.24	1457	3.56	1493	3.88	1563	4.53	1629	5.20	1692	5.87	1749	6.53	1803	7.20
7358	2600	1471	3.59	1506	3.92	1541	4.26	1609	4.93	1674	5.62	1736	6.33	1793	7.01	1846	7.70
7641	2700	1522	3.97	1556	4.31	1590	4.66	1656	5.36	1719	6.07	1780	6.79	1836	7.52	1889	8.23
7924	2800	1573	4.37	1607	4.73	1639	5.09	1703	5.81	1764	6.54	1824	7.29	1881	8.05	1933	8.79
8490	3000	1676	5.27	1708	5.65	1738	6.08	1799	6.80	1857	7.58	1913	8.37	1968	9.18	2020	9.99
9056	3200	1780	6.28	1809	6.69	1838	7.09	1895	7.91	1951	8.74	2005	9.58	2057	10.43	2108	11.29
9622	3400	1854	7.42	1912	7.85	1939	8.28	1993	9.15	2046	10.03	2097	10.91	2148	11.81	2197	12.72
10188	3600	1988	8.70	2015	9.16	2041	9.61										

VCB-1124

Wheel Diameter
24-1/2" Ø I. D.

INLET 26" Ø I.D.
OUTLET 19-1/2" x 25-1/2" I.D.

Area 3.69 Sq. Ft.
Area 3.45 Sq. Ft.

Tip Speed = RPM X 6.41
Max BHP = 2.44 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1727	500	466	0.20	576	0.35	680	0.52										
2072	600	481	0.22	571	0.36	663	0.54	831	0.94								
2417	700	504	0.27	582	0.39	659	0.55	816	0.98	963	1.47						
2762	800	522	0.31	604	0.45	670	0.60	808	1.00	944	1.50	1073	2.07	1137	2.37		
3108	900	544	0.36	624	0.52	691	0.68	810	1.04	933	1.53	1054	2.10	1170	2.73	1257	3.24
3453	1000	571	0.42	644	0.59	714	0.77	825	1.12	933	1.57	1044	2.13	1153	2.77	1259	3.46
3798	1100	602	0.48	666	0.66	732	0.85	846	1.24	942	1.65	1042	2.18	1143	2.80	1243	3.50
4144	1200	635	0.56	692	0.74	754	0.95	869	1.38	962	1.79	1049	2.27	1142	2.86	1234	3.54
4489	1300	670	0.66	722	0.84	776	1.05	888	1.50	984	1.96	1066	2.43	1148	2.96	1233	3.61
4834	1400	707	0.76	755	0.95	803	1.16	908	1.64	1007	2.15	1068	2.63	1163	3.14	1239	3.72
5180	1500	744	0.88	789	1.07	834	1.29	929	1.79	1025	2.31	1111	2.85	1184	3.37	1254	3.92
5525	1600	782	1.01	824	1.22	866	1.43	952	1.93	1044	2.50	1132	3.07	1207	3.63	1275	4.19
5870	1700	820	1.16	860	1.38	899	1.60	979	2.10	1066	2.70	1150	3.29	1230	3.90	1297	4.48
6215	1800	859	1.32	897	1.55	934	1.78	1009	2.29	1088	2.88	1170	3.52	1248	4.16	1320	4.80
6561	1900	899	1.50	935	1.74	970	1.98	1041	2.50	1113	3.09	1192	3.77	1267	4.42	1341	5.11
6906	2000	939	1.70	973	1.95	1007	2.20	1074	2.73	1142	3.32	1214	4.00	1288	4.71	1358	5.41
7251	2100	979	1.91	1012	2.18	1044	2.44	1108	2.98	1172	3.58	1238	4.25	1310	5.01	1378	5.73
7597	2200	1019	2.14	1051	2.42	1082	2.70	1143	3.26	1204	3.87	1266	4.53	1332	5.28	1400	6.07
7942	2300	1059	2.39	1090	2.69	1120	2.97	1178	3.56	1237	4.17	1296	4.85	1356	5.58	1422	6.41
8287	2400	1100	2.67	1130	2.97	1159	3.27	1215	3.88	1271	4.51	1327	5.19	1384	5.92	1444	6.73
8633	2500	1141	2.96	1170	3.28	1198	3.59	1252	4.22	1305	4.87	1359	5.55	1413	6.29	1469	7.10
8978	2600	1181	3.27	1210	3.61	1237	3.94	1289	4.59	1341	5.25	1392	5.95	1444	6.69	1497	7.50
9323	2700	1222	3.61	1250	3.96	1276	4.30	1327	4.98	1377	5.66	1426	6.37	1476	7.13	1527	7.93
9668	2800	1264	3.97	1290	4.33	1316	4.69	1365	5.39	1413	6.10	1461	6.82	1509	7.59	1557	8.40
10359	3000	1346	4.76	1372	5.16	1396	5.54	1443	6.30	1488	7.05	1532	7.81	1577	8.60	1622	9.42
11050	3200	1429	5.66	1453	6.09	1477	6.50	1521	7.31	1564	8.11	1606	8.92	1648	9.74	1690	10.6
11740	3400	1513	6.66	1536	7.13	1558	7.57	1600	8.44	1641	9.29	1681	10.1	1720	11.0	1759	11.9
12431	3600	1596	7.79	1618	8.28	1639	8.76	1680	9.69	1719	10.6	1757	11.5	1794	12.4	1832	13.3
13121	3800	1680	9.04	1701	9.57	1721	10.1	1760	11.1								

VCB-1127

Wheel Diameter
27" Ø I. D.

INLET 29" Ø I.D.
OUTLET 21-1/2" x 28-1/8" I.D.

Area 4.59 Sq. Ft.
Area 4.20 Sq. Ft.

Tip Speed = RPM X 7.07
Max BHP = 3.96 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2100	500	423	0.24	523	0.42	617	0.63										
2520	600	436	0.27	518	0.43	601	0.65	755	1.15								
2940	700	457	0.33	528	0.48	598	0.67	741	1.19	874	1.79						
3360	800	474	0.38	548	0.55	608	0.73	733	1.21	856	1.83	974	2.52	1032	2.89		
3780	900	494	0.44	567	0.63	628	0.82	735	1.26	847	1.85	957	2.56	1062	3.32	1141	3.95
4200	1000	518	0.51	585	0.72	648	0.93	748	1.36	847	1.91	947	2.59	1046	3.36	1142	4.20
4620	1100	547	0.59	604	0.80	665	1.04	768	1.51	855	2.00	946	2.65	1037	3.41	1128	4.25
5040	1200	577	0.69	628	0.90	684	1.16	789	1.68	873	2.18	952	2.75	1036	3.48	1120	4.30
5460	1300	609	0.80	656	1.02	705	1.27	806	1.83	893	2.39	968	2.95	1042	3.60	1119	4.39
5880	1400	642	0.93	685	1.15	729	1.41	824	2.00	914	2.61	988	3.20	1056	3.81	1125	4.53
6300	1500	676	1.07	716	1.31	757	1.57	844	2.18	930	2.82	1009	3.47	1075	4.10	1138	4.77
6720	1600	710	1.24	748	1.48	786	1.75	865	2.35	948	3.04	1028	3.74	1096	4.41	1157	5.09
7140	1700	745	1.42	781	1.68	817	1.95	889	2.56	968	3.28	1044	4.00	1117	4.75	1178	5.45
7560	1800	781	1.61	815	1.89	849	2.17	917	2.79	988	3.50	1062	4.28	1133	5.05	1199	5.84
7980	1900	817	1.83	849	2.12	881	2.41	945	3.04	1011	3.76	1082	4.59	1150	5.38	1217	6.21
8400	2000	853	2.07	884	2.38	915	2.68	975	3.32	1037	4.04	1102	4.86	1169	5.73	1233	6.58
8820	2100	889	2.33	919	2.65	949	2.97	1006	3.63	1064	4.36	1124	5.17	1189	6.10	1251	6.97
9240	2200	926	2.61	955	2.95	983	3.29	1038	3.97	1094	4.71	1150	5.52	1209	6.42	1271	7.39
9660	2300	962	2.92	991	3.27	1018	3.63	1070	4.33	1124	5.08	1177	5.90	1232	6.79	1291	7.80
10080	2400	999	3.25	1027	3.62	1053	3.99	1104	4.72	1154	5.49	1205	6.31	1257	7.21	1311	8.19
10500	2500	1036	3.61	1063	4.00	1088	4.38	1137	5.14	1186	5.93	1235	6.76	1284	7.66	1334	8.64
10920	2600	1074	3.99	1099	4.40	1124	4.80	1171	5.59	1218	6.39	1265	7.24	1312	8.15	1359	9.12
11340	2700	1111	4.40	1136	4.83	1160	5.24	1206	6.06	1251	6.90	1296	7.76	1341	8.68	1386	9.65
11760	2800	1148	4.84	1172	5.28	1196	5.72	1240	6.57	1284	7.43	1327	8.31	1371	9.24	1414	10.2
12600	3000	1223	5.80	1246	6.29	1268	6.76	1311	7.68	1352	8.59	1392	9.52	1432	10.5	1473	11.5
13440	3200	1299	6.90	1321	7.42	1342	7.93	1382	8.91	1421	9.89	1459	10.9	1497	11.9	1535	12.9
14280	3400	1375	8.13	1395	8.69	1415	9.23	1454	10.3	1491	11.3	1527	12.4	1563	13.4	1598	14.5
15120	3600	1450	9.50	1470	10.1	1490	10.7	1526	11.8	1562	12.9	1596	14.0	1630	15.1	1664	16.2
15960	3800	1527	11.0</														

VCB-1130

Wheel Diameter
32" Ø I. D.

INLET 32" Ø I.D.
OUTLET 23-3/4" x 31-1/4" I.D.

Area 5.59 Sq. Ft.
Area 5.15 Sq. Ft.

Tip Speed = RPM X 7.85
Max BHP = 6.71 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2577	500	381	0.29	471	0.52	556	0.78										
3092	600	392	0.33	466	0.54	542	0.80	677	1.40								
3608	700	411	0.40	474	0.59	538	0.83	667	1.47	787	2.20						
4123	800	426	0.47	492	0.68	547	0.89	660	1.49	771	2.25	877	3.10	926	3.53		
4639	900	444	0.54	509	0.77	564	1.01	661	1.55	763	2.29	862	3.15	957	4.10	1024	4.82
5154	1000	465	0.62	525	0.88	582	1.14	673	1.67	762	2.35	853	3.19	942	4.15	1028	5.18
5669	1100	490	0.72	543	0.98	597	1.27	690	1.85	768	2.46	851	3.26	934	4.20	1015	5.24
6185	1200	517	0.84	564	1.10	614	1.42	709	2.05	784	2.68	856	3.39	932	4.28	1008	5.30
6700	1300	546	0.98	588	1.25	633	1.56	724	2.24	803	2.93	870	3.62	937	4.43	1007	5.40
7216	1400	575	1.13	615	1.41	654	1.72	740	2.45	821	3.20	887	3.92	949	4.68	1012	5.57
7731	1500	605	1.31	642	1.60	679	1.92	758	2.67	836	3.45	906	4.25	966	5.03	1023	5.85
8246	1600	636	1.51	671	1.81	705	2.13	776	2.88	852	3.73	923	4.58	984	5.41	1040	6.25
8762	1700	668	1.72	700	2.04	732	2.38	798	3.13	869	4.02	938	4.90	1003	5.82	1058	6.69
9277	1800	699	1.97	730	2.30	761	2.65	822	3.41	887	4.30	954	5.25	1018	6.20	1077	7.16
9793	1900	731	2.23	761	2.59	790	2.94	848	3.72	907	4.60	972	5.62	1033	6.60	1094	7.62
10308	2000	764	2.52	792	2.89	820	3.27	875	4.06	930	4.95	989	5.96	1050	7.02	1108	8.06
10823	2100	796	2.84	823	3.23	850	3.62	902	4.44	955	5.33	1009	6.33	1068	7.47	1124	8.54
11339	2200	829	3.18	855	3.59	880	4.00	930	4.84	981	5.75	1032	6.75	1086	7.87	1141	9.05
11854	2300	862	3.55	887	3.99	912	4.42	959	5.28	1007	6.21	1056	7.21	1105	8.32	1159	9.56
12370	2400	895	3.95	919	4.41	943	4.86	989	5.76	1035	6.70	1081	7.72	1128	8.82	1177	10.0
12885	2500	928	4.38	952	4.86	974	5.33	1019	6.27	1063	7.23	1107	8.26	1151	9.37	1197	10.6
13400	2600	961	4.85	984	5.35	1006	5.84	1049	6.81	1091	7.80	1134	8.85	1176	9.97	1220	11.2
13916	2700	884	5.35	1017	5.87	1038	6.38	1080	7.39	1121	8.41	1161	9.47	1202	10.6	1244	11.8
14431	2800	1028	5.88	1050	6.42	1071	6.96	1111	8.00	1150	9.06	1190	10.1	1229	11.3	1269	12.5
15462	3000	1095	7.05	1116	7.64	1136	8.22	1174	9.35	1211	10.5	1248	11.6	1284	12.8	1321	14.0
16493	3200	1162	8.38	1182	9.02	1201	9.64	1238	10.9	1273	12.0	1307	13.2	1341	14.5	1376	15.7
17524	3400	1230	9.87	1249	10.6	1267	11.2	1302	12.5	1335	13.8	1368	15.1	1400	16.3	1432	17.7
18554	3600	1298	11.5	1316	12.3	1333	13.0	1367	14.4	1399	15.7	1430	17.1	1460	18.4	1491	19.8
19585	3800	1366	13.4	1383	14.2	1400	14.9	1432	16.4	1463	17.8	1492	19.3	1522	20.7	1551	22.1
20616	4000	1434	15.4	1451	16.3	1467											

VCB-1133

Wheel Diameter
33" Ø I. D.

INLET 34-1/2" Ø I.D.
OUTLET 26-1/4" x 34-3/8" I.D.

Area 6.49 Sq. Ft.
Area 6.27 Sq. Ft.

Tip Speed = RPM X 8.64
Max BHP = 10.80 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3179	500	347	0.36	427	0.63	504	0.95										
3814	600	358	0.41	424	0.65	492	0.97	619	1.74								
4450	700	375	0.49	433	0.72	490	1.01	605	1.78	714	2.68	759	3.10				
5086	800	390	0.58	450	0.84	499	1.10	599	1.81	699	2.73	795	3.77	851	4.43		
5721	900	406	0.66	465	0.96	516	1.25	602	1.89	693	2.78	781	3.82	867	4.97	941	6.06
6357	1000	427	0.77	480	1.09	532	1.41	614	2.06	693	2.86	775	3.88	855	5.03	932	6.29
6993	1100	451	0.90	497	1.22	546	1.58	631	2.29	701	3.03	774	3.97	848	5.10	921	6.35
7628	1200	476	1.05	518	1.37	562	1.76	648	2.54	717	3.31	780	4.15	848	5.22	916	6.44
8264	1300	503	1.23	541	1.55	580	1.93	662	2.78	734	3.62	795	4.47	854	5.41	916	6.58
8900	1400	530	1.43	565	1.77	601	2.14	677	3.04	750	3.96	811	4.85	867	5.77	922	6.81
9536	1500	559	1.65	591	2.00	624	2.39	693	3.30	764	4.27	829	5.26	863	6.21	934	7.21
10171	1600	587	1.90	618	2.27	649	2.67	711	3.57	779	4.62	843	5.66	900	6.69	950	7.72
10807	1700	616	2.18	645	2.57	674	2.98	733	3.89	796	4.98	857	6.06	917	7.20	967	8.27
11443	1800	646	2.49	674	2.90	701	3.32	755	4.25	812	5.32	873	6.50	930	7.66	985	8.86
12078	1900	676	2.82	702	3.26	728	3.70	780	4.65	832	5.72	890	6.96	945	8.17	999	9.41
12714	2000	706	3.19	731	3.66	756	4.12	805	5.08	854	6.16	906	7.38	961	8.70	1013	9.98
13350	2100	736	3.60	760	4.08	784	4.57	830	5.56	877	6.65	926	7.86	977	9.23	1028	10.6
13985	2200	766	4.03	790	4.55	812	5.05	857	6.08	902	7.19	947	8.40	994	9.75	1045	11.2
14621	2300	797	4.51	819	5.05	841	5.58	884	6.65	927	7.77	970	8.99	1014	10.3	1061	11.8
15257	2400	827	5.02	849	5.58	870	6.14	912	7.25	952	8.40	993	9.64	1035	11.0	1078	12.4
15893	2500	858	5.57	879	6.16	900	6.74	940	7.90	979	9.08	1018	10.3	1058	11.7	1098	13.1
16528	2600	889	6.16	910	6.78	930	7.39	968	8.59	1006	9.80	1043	11.1	1081	12.4	1120	13.9
17164	2700	920	6.80	940	7.45	959	8.08	997	9.32	1033	10.6	1069	11.9	1106	13.3	1142	14.7
17800	2800	951	7.48	970	8.16	989	8.81	1025	10.1	1061	11.4	1096	12.7	1131	14.1	1166	15.6
19071	3000	1013	8.98	1032	9.71	1050	10.4	1084	11.8	1117	13.2	1150	14.6	1182	16.0	1215	17.5
20342	3200	1076	10.7	1093	11.5	1110	12.2	1143	13.7	1175	15.2	1205	16.7	1236	18.2	1266	19.7
21614	3400	1139	12.6	1155	13.4	1172	14.3	1203	15.9	1233	17.4	1262	19.0	1291	20.6	1320	22.2
22885	3600	1202	14.7	1218	15.6	1233	16.5	1263	18.2	1292	19.9	1320	21.6	1347	23.2	1374	24.9
24157	3800	1265	17.1	1280	18.1	1295	19.0	1324	20.8								

VCB-1136

Wheel Diameter
36-1/2" Ø I. D.

INLET 38-1/2" Ø I.D.
OUTLET 29" x 38" I.D.

Area 8.08 Sq. Ft.
Area 7.65 Sq. Ft.

Tip Speed = RPM X 9.56
Max BHP = 18.70 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3827	500	316	0.43	379	0.67	435	0.94										
4592	600	323	0.48	386	0.77	439	1.06	533	1.72								
5357	700	334	0.54	394	0.86	446	1.19	536	1.88	616	2.66	688	3.54				
6122	800	350	0.64	402	0.94	454	1.32	542	2.07	618	2.87	689	3.75	754	4.74		
6888	900	369	0.76	416	1.05	462	1.41	550	2.28	624	3.13	692	4.03	755	5.00	814	6.07
7653	1000	388	0.89	433	1.21	474	1.55	557	2.45	632	3.40	698	4.35	758	5.34	816	6.41
8418	1100	409	1.04	451	1.39	490	1.74	565	2.59	641	3.68	705	4.69	764	5.73	820	6.82
9184	1200	432	1.21	470	1.58	508	1.97	577	2.79	647	3.85	714	5.04	772	6.15	827	7.28
9949	1300	455	1.39	491	1.79	527	2.21	592	3.05	656	4.06	720	5.28	781	6.56	834	7.76
10714	1400	479	1.60	513	2.04	546	2.47	609	3.37	668	4.34	728	5.52	788	6.88	843	8.25
11480	1500	504	1.83	535	2.29	567	2.76	628	3.73	683	4.70	739	5.82	794	7.15	850	8.64
12245	1600	529	2.10	559	2.58	588	3.08	646	4.10	700	5.12	752	6.21	804	7.48	856	8.94
13010	1700	555	2.39	583	2.89	611	3.42	666	4.48	719	5.58	768	6.68	817	7.90	866	9.31
13775	1800	581	2.71	608	3.23	634	3.78	686	4.90	738	6.08	785	7.22	831	8.42	878	9.76
14541	1900	608	3.07	633	3.61	658	4.18	707	5.36	756	6.57	803	7.80	847	9.02	891	10.3
15306	2000	634	3.46	659	4.02	682	4.61	730	5.86	776	7.10	823	8.42	865	9.68	906	11.0
16071	2100	661	3.89	684	4.47	707	5.08	752	6.38	797	7.68	841	9.03	884	10.4	924	11.7
16837	2200	688	4.36	711	4.96	732	5.59	775	6.92	818	8.30	860	9.68	903	11.1	942	12.5
17602	2300	715	4.86	737	5.49	758	6.14	799	7.51	840	8.96	881	10.4	921	11.9	961	13.4
18367	2400	743	5.41	764	6.06	784	6.74	823	8.14	863	9.65	902	11.1	940	12.6	979	14.2
19133	2500	770	6.00	790	6.68	810	7.37	848	8.82	886	10.4	924	11.9	961	13.5	998	15.1
19898	2600	798	6.64	817	7.34	836	8.05	873	9.55	910	11.1	946	12.8	982	14.4	1017	16.0
20663	2700	826	7.32	844	8.04	863	8.78	898	10.3	934	11.9	969	13.6	1003	15.3	1038	17.0
21428	2800	853	8.05	872	8.8	889	9.56	924	11.1	958	12.8	992	14.5	1026	16.3	1059	19.0
22959	3000	909	9.67	926	10.5	943	11.3	976	12.9	1008	14.7	1039	16.5	1071	18.4	1102	20.2
24490	3200	965	11.5	982	12.4	997	13.2	1028	15.0	1058	16.8	1088	18.7	1118	20.6	1147	22.6
26020	3400	1021	13.6	1037	14.5	1052	15.4	1082	17.2	1110	19.1	1138	21.1	1166	23.1	1194	25.2
27551	3600	1078	15.9	1093	16.8	1107	17.8	1135	19.7	1162	21.7	1189	23.8	1215	25.9	1242	28.0
29081	3800	1135	18.5	1149	19.4	1162	20.4	1189	22.5	1215	24.6	1241	26.7	1266	2		

VCB-1140

Wheel Diameter
40-1/4" Ø I. D.

INLET 42-1/4" Ø I.D.
OUTLET 32" x 42" I.D.

Area 9.74 Sq. Ft.
Area 9.33 Sq. Ft.

Tip Speed = RPM X 10.54
Max BHP = 30.42 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4667	500	287	0.52	344	0.81	395	1.15										
5600	600	293	0.59	350	0.94	398	1.29	484	2.09								
6533	700	303	0.66	357	1.05	405	1.45	486	2.29	558	3.23	624	4.31				
7466	800	318	0.78	365	1.14	412	1.61	492	2.53	561	3.50	624	4.57	684	5.77		
8400	900	335	0.93	377	1.28	419	1.72	499	2.78	566	3.81	627	4.91	684	6.09	739	7.39
9333	1000	352	1.08	393	1.48	430	1.89	506	2.98	573	4.15	633	5.30	688	6.51	740	7.80
10266	1100	372	1.27	410	1.70	445	2.13	513	3.16	582	4.48	640	5.72	693	6.99	744	8.31
11200	1200	392	1.47	427	1.93	461	2.40	524	3.40	587	4.68	648	6.14	700	7.49	750	8.87
12133	1300	413	1.70	446	2.19	478	2.70	537	3.73	595	4.95	653	6.43	708	8.00	757	9.46
13066	1400	435	1.96	466	2.49	496	3.03	553	4.12	607	5.29	661	6.73	714	8.38	765	10.1
14000	1500	458	2.24	486	2.80	515	3.37	570	4.55	620	5.73	671	7.09	721	8.71	771	10.5
14933	1600	481	2.57	508	3.15	534	3.76	587	5.00	636	6.25	683	7.57	730	9.12	777	10.9
15866	1700	504	2.92	530	3.53	555	4.18	604	5.47	653	6.82	697	8.17	741	9.63	786	11.4
16799	1800	528	3.32	552	3.95	576	4.62	623	5.99	670	7.42	713	8.81	754	10.3	796	11.9
17733	1900	552	3.76	575	4.42	598	5.11	643	6.55	687	8.02	730	9.53	769	11.0	809	12.6
18666	2000	577	4.24	599	4.92	620	5.64	663	7.16	705	8.67	747	10.3	785	11.8	823	13.4
19599	2100	601	4.76	622	5.48	643	6.22	664	7.79	724	9.38	764	11.0	802	12.7	838	14.3
20533	2200	626	5.33	646	6.07	666	6.84	705	8.46	743	10.1	781	11.8	820	13.6	855	15.3
21466	2300	650	5.96	670	6.72	689	7.52	726	9.18	764	10.9	800	12.7	836	14.5	872	16.3
22399	2400	675	6.63	694	7.42	712	8.24	748	9.96	784	11.8	819	13.6	854	15.4	889	17.4
23333	2500	700	7.35	719	8.18	736	9.02	771	10.8	805	12.7	839	14.6	873	16.5	906	18.4
24266	2600	725	8.13	743	8.98	760	9.86	793	11.7	826	13.6	860	15.6	892	17.5	924	19.5
25199	2700	751	8.97	768	9.85	784	10.8	817	12.6	848	14.6	880	16.7	911	18.7	942	20.7
26132	2800	776	9.87	792	10.8	809	11.7	840	13.6	870	15.6	901	17.8	932	19.9	962	22.0
27999	3000	827	11.9	842	12.8	857	13.8	887	15.8	916	17.9	944	20.1	973	22.4	1001	24.7
29866	3200	878	14.1	892	15.1	907	16.2	935	18.3	962	20.5	989	22.8	1016	25.2	1042	27.7
31732	3400	929	16.6	943	17.7	957	18.8	983	21.1	1009	23.4	1034	25.8	1060	28.3	1085	30.8
33599	3600	980	19.5	994	20.6	1007	21.8	1032	24.1	1057	26.6	1081	29.1	1105	31.6	1128	34.3
35465	3800	1032	22.6	1044	23.8	1057	25.1	1081	27.5	1105	30.1	1128	32.7	1150	35.3	1173	38.1

VCB-1144

Wheel Diameter
44-1/4" Ø I. D.

INLET 46-1/4" Ø I.D.
OUTLET 3-3/8" x 46-1/2" I.D.

Area 11.67 Sq. Ft.
Area 11.41 Sq. Ft.

Tip Speed = RPM X 11.65
Max BHP = 50.18 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5750	500	260	0.64	311	1.00	357	1.41										
6900	600	266	0.72	317	1.15	360	1.58	437	2.56								
8050	700	275	0.82	323	1.29	367	1.79	440	2.81	505	3.97	565	5.28				
9200	800	289	0.97	331	1.40	373	1.97	445	3.11	508	4.30	565	5.61	619	7.07		
10350	900	304	1.15	342	1.59	380	2.12	452	3.42	513	4.69	568	6.03	619	7.48	668	9.06
11500	1000	320	1.34	356	1.83	390	2.33	458	3.66	519	5.10	573	6.52	622	8.00	669	9.59
12650	1100	338	1.57	372	2.10	403	2.63	465	3.88	526	5.50	579	7.04	628	8.59	673	10.2
13800	1200	356	1.83	388	2.39	419	2.97	475	4.19	531	5.75	587	7.56	634	9.22	679	10.9
14950	1300	376	2.11	405	2.72	434	3.34	487	4.60	539	6.09	591	7.90	641	9.84	685	11.6
16100	1400	396	2.43	423	3.08	450	3.74	502	5.09	550	6.52	568	8.27	647	10.3	693	12.4
17250	1500	417	2.79	442	3.48	468	4.18	518	5.63	563	7.08	587	8.73	653	10.7	698	12.9
18400	1600	438	3.19	462	3.91	486	4.66	533	6.18	577	7.72	619	9.34	661	11.2	704	13.4
19550	1700	459	3.64	482	4.39	505	5.18	549	6.77	592	8.44	632	10.1	672	11.9	712	14.0
20700	1800	481	4.13	503	4.91	524	5.74	566	7.42	608	9.17	647	10.9	684	12.7	722	14.7
21850	1900	503	4.68	524	5.49	544	6.34	584	8.12	624	9.92	662	11.8	698	13.6	733	15.5
23000	2000	525	5.28	545	6.12	564	7.00	603	8.88	640	10.7	678	12.7	713	14.6	747	16.6
24150	2100	547	5.94	566	6.81	585	7.72	621	9.66	657	11.6	693	13.6	728	15.7	761	17.7
25300	2200	570	6.65	588	7.56	606	8.50	641	10.5	675	12.6	710	14.6	744	16.8	776	18.9
26450	2300	592	7.43	610	8.37	627	9.35	661	11.4	684	13.6	727	15.7	759	17.9	792	20.2
27600	2400	615	8.27	632	9.25	649	10.3	681	12.4	713	14.6	744	16.8	776	19.1	807	21.5
28750	2500	638	9.17	654	10.2	670	11.2	701	13.4	732	15.7	763	18.1	793	20.4	823	22.8
29900	2600	661	10.1	677	11.2	692	12.3	722	14.5	752	16.9	781	19.3	810	21.7	839	24.2
31050	2700	684	11.2	689	12.3	714	13.4	743	15.7	772	18.1	800	20.6	828	23.2	856	25.7
32200	2800	707	12.3	722	13.4	736	14.6	764	16.9	792	19.4	819	22.0	847	24.7	874	27.3
34500	3000	753	14.8	767	16.0	781	17.2	807	19.7	833	22.3	859	25.0	885	27.8	910	30.6
36800	3200	800	17.6	813	18.9	826	20.2	851	22.8	876	25.5	900	28.3	924	31.3	948	34.3
39100	3400	846	20.8	859	22.1	871	23.5	895	26.3	918	29.1	941	32.1	964	35.1	986	38.2
41400	3600	893	24.3	905	25.7	917	27.2	940	30.1	962	33.1	984	36.2	1005	39.3	1026	42.5
43700	3800	940	28.3	952	29.8	963	31.3	985	34.3	1006	37.5	1027	40.7	1047	43.9	1067	47.3
46000	4000	987	32.7	998	34.2	1009	35.8	1030	39.0	1050	42.3	1070	45.6	1090	49.0		

VCB-1154

Wheel Diameter
54-1/4" Ø I. D.

INLET 56-1/4" Ø I.D.
OUTLET 43-1/8" x 56-1/2" I.D.

Area 17.26 Sq. Ft.
Area 16.92 Sq. Ft.

Tip Speed = RPM X 14.20
Max BHP = 135.0 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8460	500	213	0.94	255	1.48	293	2.09										
10152	600	218	1.06	260	1.70	295	2.34	359	3.79								
11844	700	225	1.20	265	1.90	300	2.64	361	4.15	414	5.87	463	7.82				
13536	800	236	1.41	271	3.07	306	2.91	365	4.58	416	6.34	463	8.29	508	10.5		
15228	900	248	1.68	280	2.33	311	3.12	370	5.04	420	6.91	465	8.90	508	11.1	548	13.4
16920	1000	261	1.96	291	2.68	319	3.43	375	5.41	425	7.52	469	9.61	510	11.8	549	14.2
18612	1100	275	2.29	304	3.08	330	3.85	380	5.73	431	8.13	475	10.4	514	12.7	552	15.1
20304	1200	291	2.67	316	3.49	342	4.36	368	6.16	435	8.50	480	11.1	520	13.5	556	16.1
21996	1300	306	3.08	330	3.97	354	4.90	398	6.75	441	8.97	485	11.7	525	14.5	561	17.2
23688	1400	322	3.54	345	4.50	367	5.47	410	7.46	450	9.59	490	12.2	530	15.2	567	18.2
25380	1500	339	4.06	360	5.08	381	6.11	423	8.25	460	10.4	497	12.9	535	15.8	572	19.1
27072	1600	356	4.64	376	5.70	396	6.81	435	9.06	471	11.3	506	13.7	541	16.5	576	19.8
28764	1700	374	5.29	392	6.39	411	7.57	448	9.91	484	12.4	517	14.8	550	17.5	583	20.6
30456	1800	391	6.01	409	7.16	427	8.37	462	10.8	497	13.4	528	16.0	559	18.6	591	21.6
32148	1900	409	6.80	426	7.99	443	9.25	476	11.9	509	14.5	541	17.3	570	19.9	600	22.8
33840	2000	427	7.66	443	8.91	459	10.2	491	13.0	522	15.7	554	18.6	582	21.4	610	24.3
35532	2100	445	8.61	461	9.90	476	11.2	506	14.1	536	17.0	566	20.0	595	23.0	622	25.9
37224	2200	463	9.64	478	11.0	493	12.4	522	15.3	551	18.4	579	21.4	608	24.6	634	27.7
38916	2300	482	10.8	496	12.2	510	13.6	538	16.6	566	19.8	593	23.0	620	26.2	647	29.6
40608	2400	500	12.0	514	13.4	528	14.9	554	18.0	581	21.3	607	24.6	633	28.0	659	31.5
42300	2500	519	13.3	532	14.8	545	16.3	571	19.5	596	22.9	622	26.4	647	29.8	672	33.4
43992	2600	537	14.7	550	16.2	563	17.8	588	21.1	612	24.6	637	28.2	661	31.8	685	35.4
45684	2700	556	16.2	569	17.8	581	19.4	605	22.8	628	26.4	652	30.1	675	33.8	698	37.5
47376	2800	575	17.8	587	19.5	599	21.2	622	24.7	645	28.3	668	32.1	690	36.0	713	39.8
50760	3000	612	21.4	624	23.2	635	25.0	657	28.6	678	32.5	700	36.5	721	40.6	742	44.8
54144	3200	650	25.5	661	27.3	672	29.2	692	33.1	713	37.1	733	41.3	752	45.6	772	50.1
57528	3400	688	30.1	698	32.0	708	34.0	728	38.1	747	42.3	766	46.7	785	51.1	804	55.8
60912	3600	726	35.2	736	37.3	745	39.4	764	43.6	783	48.1	801	52.6	818	57.2	836	62.0
64296	3800	764	40.9	773	43.1	783	45.3	801	49.8	818	54.4	835	59.1	852	63.9	869	68.9
67680	4000	802	47.2	811	49.5	820	51.8	837	56.5	854	61.3	871	66.2	887	71.3	903	76.4

VCB-1160

Wheel Diameter
60"Ø I. D.

INLET 62" Ø I.D.
OUTLET 47-3/4" x 62-1/2" I.D.

Area 20.97 Sq. Ft.
Area 20.71 Sq. Ft.

Tip Speed = RPM X 15.71
Max BHP = 223.8 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10362	500	192	1.15	231	1.81	265	2.55										
12434	600	197	1.30	235	2.08	267	2.86	324	4.64								
14507	700	203	1.47	240	2.33	272	3.23	326	5.08	375	7.18	419	9.57				
16579	800	213	1.73	245	2.53	276	3.57	330	5.61	376	7.76	419	10.2	459	12.8		
18652	900	225	2.06	253	2.85	281	3.82	335	6.17	380	8.46	421	10.9	459	13.5	495	16.4
20724	1000	236	2.41	263	3.28	289	4.20	339	6.62	385	9.21	424	11.8	451	14.5	496	17.3
22796	1100	249	2.81	275	3.77	298	4.72	344	7.01	390	9.96	429	12.7	465	15.5	499	18.5
24869	1200	263	3.27	266	4.28	309	5.34	351	7.55	394	10.4	434	13.6	470	16.6	503	19.7
26941	1300	277	3.77	299	4.87	321	6.00	360	8.28	399	11.0	438	14.3	475	17.8	508	21.0
29014	1400	292	4.34	312	5.52	332	6.70	371	9.14	407	11.7	443	14.9	479	18.6	513	22.3
31086	1500	307	4.98	326	6.22	345	7.48	382	10.1	416	12.7	450	15.8	483	19.4	517	23.4
33158	1600	322	5.69	340	6.99	358	8.35	394	11.1	426	13.9	458	16.8	490	20.3	521	24.2
35231	1700	338	6.49	355	7.84	372	9.28	405	12.1	438	15.1	467	18.1	497	21.4	527	25.2
37303	1800	354	7.37	370	8.78	386	10.3	418	13.3	449	16.5	478	19.6	506	22.8	534	26.4
39376	1900	370	8.34	386	9.8	401	11.3	431	14.5	461	17.8	489	21.1	516	24.4	542	28.0
41448	2000	387	9.40	401	10.9	416	12.5	444	15.9	473	19.3	501	22.8	527	26.2	552	29.8
43520	2100	403	10.6	417	12.1	431	13.8	458	17.3	485	20.8	512	24.5	538	28.2	562	31.8
45593	2200	419	11.8	433	13.5	446	15.2	472	18.8	498	22.5	524	26.2	550	30.2	573	33.9
47665	2300	436	13.2	449	14.9	462	16.7	487	20.4	512	24.3	536	28.1	561	32.2	585	36.2
49738	2400	453	14.7	465	16.5	478	18.3	502	22.1	526	26.2	549	30.2	573	34.3	596	38.6
51810	2500	469	16.3	482	18.1	494	20.0	517	23.9	540	28.1	563	32.3	585	36.5	608	40.9
63882	2600	486	18.0	498	19.9	510	21.9	532	25.9	554	30.2	576	34.6	598	38.9	620	43.4
55955	2700	503	19.9	515	21.9	526	23.9	547	28.0	569	32.4	590	37.0	611	41.5	632	46.0
58027	2800	520	21.9	531	23.9	542	26.0	563	30.2	584	34.7	604	39.4	625	44.2	645	48.8
62172	3000	554	26.3	565	28.4	575	30.6	595	35.1	614	39.8	633	44.7	652	49.8	671	54.9
66317	3200	588	31.3	598	33.6	608	35.9	627	40.6	645	45.5	663	50.6	681	55.9	699	61.4
70462	3400	623	36.9	632	39.3	641	41.8	659	46.8	676	51.9	693	57.2	710	62.7	727	68.4
74606	3600	657	43.2	666	45.7	675	48.3	692	53.6	708	59.0	725	64.5	741	70.2	757	76.1
78751	3800	692	50.2	700	52.9	709	55.6	725	61.1	741	66.7	756	72.5	771	78.4	787	84.5
82896	4000	726	57.9	734	60.7	742	63.6	758	69.3	773	75.2	788	81.2	803	87.4	817	93.7
Volume CFM	Outlet Vol.																

VCB-1166

Wheel Diameter
66" Ø I. D.

INLET 69" Ø I.D.
OUTLET 52-3/8" x 68-7/8" I.D.

Area 25.97 Sq. Ft.
Area 25.05 Sq. Ft.

Tip Speed = RPM X 17.28
Max BHP = 360.4 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11980	500	174	1.34	209	2.12	241	3.02										
14376	600	178	1.54	212	2.43	242	3.35	295	5.51								
16772	700	183	1.70	217	2.75	246	3.76	296	5.96	341	8.52						
19168	800	190	1.97	220	2.96	250	4.20	298	6.55	341	9.12	381	12.0	417	15.2		
21564	900	200	2.33	227	3.27	253	4.49	303	7.20	344	9.89	382	12.8	417	16.0	451	19.5
23960	1000	210	2.72	235	3.72	259	4.85	307	7.84	348	10.7	384	13.8	418	17.0	451	20.4
26356	1100	221	3.15	245	4.27	267	5.38	310	8.23	352	11.6	388	14.6	421	18.1	452	21.6
28752	1200	232	3.66	255	4.84	276	6.05	316	8.76	356	12.3	392	15.9	425	19.4	455	23.0
31148	1300	244	4.20	265	5.47	286	6.80	323	9.48	360	12.9	397	16.9	429	20.7	459	24.5
33544	1400	257	4.81	276	6.18	295	7.57	331	10.4	365	13.6	400	17.6	434	22.0	463	26.0
35940	1500	270	5.50	288	6.96	306	8.41	341	11.4	372	14.6	405	18.4	437	22.8	468	27.5
38336	1600	283	6.26	300	7.79	317	9.35	351	12.6	381	15.8	411	19.4	441	23.7	471	28.5
40732	1700	297	7.11	313	8.70	329	10.4	360	13.7	390	17.1	418	20.7	447	24.8	475	29.6
43128	1800	310	8.06	326	9.70	341	11.5	371	15.0	400	18.6	427	22.2	453	26.2	480	30.8
45524	1900	324	9.09	339	10.8	353	12.6	382	16.3	410	20.2	436	23.9	461	27.9	487	32.2
47920	2000	338	10.2	352	12.0	366	13.9	393	17.8	420	21.7	446	25.8	470	29.8	494	34.1
50316	2100	352	11.5	366	13.3	379	15.2	405	19.3	430	23.4	456	27.7	479	31.9	502	36.2
52712	2200	367	12.8	379	14.7	392	16.7	417	21.0	441	25.2	466	29.6	489	34.1	511	38.5
55108	2300	381	14.3	393	16.3	405	18.3	429	22.7	453	27.2	476	31.7	500	36.5	521	41.0
57504	2400	395	15.9	407	17.9	419	20.0	442	24.5	465	29.2	487	33.9	509	38.7	531	43.7
59900	2500	410	17.6	421	19.7	433	21.9	455	26.5	477	31.4	498	36.2	519	41.2	541	46.4
62296	2600	424	19.4	436	21.6	446	23.9	468	28.6	489	33.6	510	38.7	530	43.8	551	49.0
64692	2700	439	21.5	450	23.7	460	26.0	481	30.9	501	36.0	521	41.3	541	46.5	561	51.9
67088	2800	454	23.5	464	25.9	474	28.3	494	33.2	514	38.5	533	44.0	553	49.4	572	54.9
71880	3000	483	28.2	493	30.7	503	33.2	521	38.5	540	44.0	558	49.7	576	55.7	594	61.4
76672	3200	513	33.5	522	36.1	531	38.8	549	44.4	566	50.1	583	56.1	600	62.3	618	68.6
81464	3400	542	39.4	551	42.2	560	45.1	577	50.9	593	56.9	609	63.1	625	69.6	642	76.3
86256	3600	572	46.1	581	49.0	589	52.0	605	58.1	621	64.4	636	70.9	651	77.6	666	84.5
91048	3800	602	53.5	610	56.6	618	59.7	634	66.2	648	72.7	663	79.5	678	86.4	692	93.6
95840	4000	632	61.7	640	65.0	647	68.3	662	75.0	677	81.8	691	88.8	704	96.0	718	103
Volume CFM	Outlet Vol.	4" s.p.															

VCB-1173

Wheel Diameter
73"Ø I. D.

INLET 76" Ø I.D.
OUTLET 58" x 76" I.D.

Area 31.50 Sq. Ft.
Area 30.60 Sq. Ft.

Tip Speed = RPM X 19.11
Max BHP = 596 $\frac{\text{RPM}^3}{1000}$

Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
15306	500	158	1.70	190	2.67	218	3.77										
18367	600	162	1.92	193	3.07	220	4.23	267	6.87								
21428	700	167	2.17	197	3.44	223	4.77	268	7.51	308	10.6	344	14.2				
24489	800	175	2.56	201	3.74	227	5.27	271	8.29	309	11.5	344	15.0	377	19.0		
27550	900	184	3.04	208	4.21	231	5.65	275	9.12	312	12.5	346	16.1	377	20.0	407	24.3
30611	1000	194	3.55	216	4.84	237	6.20	279	9.78	316	13.6	349	17.4	379	21.4	408	25.6
33672	1100	205	4.15	226	5.57	245	6.97	283	10.4	321	14.7	353	18.8	382	22.9	410	27.3
36733	1200	216	4.82	235	6.32	254	7.88	289	11.1	323	15.4	357	20.2	386	24.6	413	29.1
39794	1300	227	5.56	245	7.18	263	8.85	296	12.2	328	16.2	360	21.1	390	26.3	417	31.1
42855	1400	239	6.40	256	8.14	273	9.89	305	13.5	334	17.3	364	22.1	394	27.5	421	33.0
45917	1500	252	7.34	268	9.18	283	11.0	314	14.9	342	18.8	369	23.3	397	28.6	425	34.6
48978	1600	265	8.39	279	10.3	294	12.3	323	16.4	350	20.5	376	24.8	402	29.9	428	35.8
52039	1700	278	9.56	291	11.6	305	13.7	333	17.9	359	22.3	384	26.7	408	31.6	433	37.3
55100	1800	291	10.9	304	12.9	317	15.1	343	19.6	369	24.3	392	28.9	416	33.7	439	39.0
58161	1900	304	12.3	316	14.4	329	16.7	354	21.5	378	26.3	402	31.2	424	36.1	446	41.3
61222	2000	317	13.8	329	16.1	341	18.4	365	23.4	388	28.4	411	33.7	433	38.7	453	43.9
64283	2100	331	15.6	342	17.9	354	20.3	376	25.5	398	30.7	420	36.1	442	41.6	462	46.9
67344	2200	344	17.4	355	19.9	366	22.4	388	27.7	409	33.2	430	38.7	451	44.5	471	50.1
70405	2300	358	19.4	369	22.0	379	24.6	400	30.0	420	35.8	440	41.5	461	47.4	480	53.5
73466	2400	371	21.6	382	24.2	392	26.9	412	32.6	432	38.6	451	44.5	470	50.6	490	56.9
76528	2500	385	24.0	395	26.7	405	29.5	424	35.3	443	41.4	462	47.7	480	53.9	499	60.3
79589	2600	399	26.5	409	29.3	418	32.2	437	38.2	455	44.5	473	51.0	491	57.4	509	64.0
82650	2700	413	29.3	422	32.2	431	35.1	449	41.3	467	47.7	484	54.5	502	61.2	519	67.9
85711	2800	427	32.2	436	35.2	445	38.2	462	44.6	479	51.2	496	58.1	513	65.1	529	72.0
91833	3000	455	38.7	463	41.9	472	45.1	488	51.8	504	58.7	520	65.9	535	73.4	551	80.9
97955	3200	483	46.0	491	49.4	499	52.8	514	59.8	529	67.1	544	74.6	559	82.5	574	90.5
104077	3400	511	54.3	518	57.9	526	61.5	541	68.9	555	76.5	569	84.3	583	92.5	597	101
110200	3600	539	63.5	546	67.3	554	71.1	568	78.9	581	86.8	595	95.0	608	103	621	112
116322	3800	567	73.8	574	77.8	581	81.8	595	89.9	608	98.3	620	107	633	116	645	125
122444	4000	596	85.2	602	89.4	609	93.5	622	102	634	111	646	120	659	129	670	138
Volume CFM	Outlet Vol.	4" s.p.															

VCB-1180

Wheel Diameter
80-3/4" Ø I. D.

INLET 84" Ø I.D.
OUTLET 64-1/8" x 84-1/4" I.D.

Area 38.48 Sq. Ft.
Area 37.52 Sq. Ft.

Tip Speed = RPM X 21.14
Max BHP = 987.4 $\frac{\text{RPM}^3}{1000}$

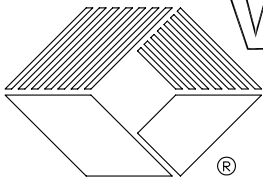
Volume CFM	Outlet Vol.	.5" s.p.		.75" s.p.		1" s.p.		1.5" s.p.		2" s.p.		2.5" s.p.		3" s.p.		3.5" s.p.	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
18755	500	143	2.08	171	3.27	197	4.62										
22506	600	146	2.35	175	3.76	198	5.18	241	8.41								
26257	700	151	2.66	178	4.21	202	5.84	242	9.19	278	13.0	311	17.3				
30008	800	158	3.14	182	4.58	205	6.46	245	10.2	280	14.1	311	18.4	341	23.2		
33759	900	167	3.73	188	5.16	209	6.92	249	11.2	282	15.3	313	19.7	341	24.5	368	29.7
37510	1000	176	4.35	196	5.93	214	7.60	252	12.0	286	16.7	315	21.3	343	26.2	369	31.4
41261	1100	185	5.09	204	6.83	221	8.54	256	12.7	290	18.0	319	23.0	346	28.1	371	33.4
45012	1200	195	5.92	213	7.75	230	9.66	261	13.7	292	18.8	323	24.7	349	30.1	374	35.7
48763	1300	206	6.82	222	8.81	238	10.9	268	15.0	297	19.9	326	25.9	353	32.2	377	38.0
52514	1400	217	7.85	232	9.99	247	12.1	275	16.5	302	21.3	329	27.0	356	33.7	381	40.4
56265	1500	228	9.00	242	11.3	256	13.5	284	18.3	309	23.0	334	28.5	359	35.0	384	42.3
60016	1600	239	10.3	253	12.6	266	15.1	292	20.1	317	25.1	340	30.4	364	36.7	387	43.8
63767	1700	251	11.7	264	14.2	276	16.8	301	22.0	325	27.4	347	32.8	369	38.7	391	45.6
67518	1800	263	13.3	275	15.9	287	18.6	310	24.1	334	29.8	355	35.4	376	41.3	397	47.8
71269	1900	275	15.1	286	17.7	298	20.5	320	26.3	342	32.2	363	38.3	383	44.2	403	50.6
75020	2000	287	17.0	298	19.8	309	22.6	330	28.8	351	34.8	372	41.3	391	47.5	410	53.9
78771	2100	299	19.1	310	22.0	320	24.9	340	31.3	360	37.7	380	44.3	400	51.0	418	57.5
82522	2200	311	21.4	322	24.4	331	27.5	351	34.0	370	40.7	389	47.5	408	54.6	426	61.4
86273	2300	324	23.9	334	27.0	343	30.2	362	36.9	380	43.9	398	50.9	417	58.2	435	65.6
90024	2400	336	26.6	346	29.8	355	33.1	373	40.0	390	47.3	408	54.5	425	62.0	443	69.8
93775	2500	349	29.5	358	32.8	367	36.2	384	43.3	401	50.8	418	58.5	435	66.1	451	74.0
97526	2600	361	32.6	370	36.0	378	39.5	395	46.9	412	54.6	428	62.6	444	70.4	460	78.5
101277	2700	374	36.0	382	39.5	390	43.1	407	50.7	422	58.5	438	66.9	454	75.0	469	83.3
105028	2800	386	39.6	394	43.2	403	47.0	418	54.7	433	62.8	449	71.3	464	79.9	479	88.3
112530	3000	411	47.5	419	51.4	427	55.4	442	63.5	456	72.0	470	80.9	484	90.1	499	99.3
120032	3200	437	56.5	444	60.7	451	64.9	465	73.5	479	82.4	492	91.6	506	101	519	111
127534	3400	462	66.7	469	71.1	476	75.5	489	84.5	502	93.9	515	104	528	113	540	124
135036	3600	488	78.1	495	82.7	501	87.3	514	96.8	526	107	538	117	550	127	562	138
142538	3800	514	90.7	520	95.6	526	100	538	110	550	121	561	131	573	142	584	153
150040	4000	539	105	545	110	551	115	563	125	574	136	585	147	596	158	607	169
Volume CFM	Outlet Vol.	4" s.p.		4.5" s.p.		5" s.p.		5.5" s.p.		6" s.p.		7" s.p.		8" s.p.		9" s.p.	

PVC CORROSION TABLE

This table may be used as a guide for ventilating gases and vapors from processes where chemicals shown are used.
Maximum temperatures shown.

ENVIRONMENT	Type 1	Type I	Type II	Type II	ENVIRONMENT	Type 1	Type I	Type II	Type II	ENVIRONMENT	Type I	Type I	Type II	Type II
	70°	140°	70°	140°		70°	140°	70°	140°		70°	140°	70°	140°
ACIDS					ALKALIES					SALTS (cont'd.)				
Acetic 20-30%	E	G	G	L	Ammonium Bifluoride	E	E	E	E	Sodium Ferricyanide	E	E	E	E
Acetic 30-60%	E	E	G	L	Ammonium Carbonate	E	E	E	E	Sodium Fluoride	E	E	E	E
Benzene	U	U	U	U	Ammonium Fluoride 25%	E	L	U	U	Sodium Nitrate	E	E	E	E
Benzene Sulfonic 10%	E	E	E	E	Ammonium Hydroxide 28%	E	E	E	E	Sodium Nitrite	E	E	E	E
Benzoic	E	E	E	E	Barium Carbonate	E	E	E	E	Sodium Sulfate	E	E	E	E
Boric	E	E	E	E	Calcium Hydroxide	E	E	E	E	Sodium Sulfite	E	E	E	E
Butyric 20%	G	U	L	U	Magnesium Carbonate	E	E	E	E	Stannic Chloride	E	E	E	E
Carbonic	E	E	E	E	Potassium Bicarbonate	E	E	E	E	Stannous Chloride	E	G	E	G
Chloracetic	E	L	E	U	Potassium Carbonate	E	E	E	E	Zinc Chloride	E	E	E	E
Chromic 10%	E	E	E	E	Potassium Hydroxide					Zinc Nitrate	E	E	E	E
Chromic 25%	E	L	G	L	10, 20, 35%	E	E	E	E	Zinc Sulfate	E	E	E	E
Citric	E	E	E	E	Sodium Bicarbonate	E	E	E	E					
Fluoroboric	E	E	E	E	Sodium Carbonate	E	E	E	E					
Fluorosilicic	E	E	E	E	Sodium Hydroxide 10, 35%	E	E	E	E	SOLVENTS				
Formic	E	U	E	U	Sodium Sulfide	E	E	E	E	Acetone	U	U	U	U
Glucose	E	E	E	E	Trisodium Phosphate	E	E	E	E	Benzene	U	U	U	U
Hydrobromic 20%	E	E	E	G						Carbon Bisulfide	U	U	U	U
Hydrochloric 0-25%	E	G	E	G	SALTS					Carbon Tetrachloride	L	U	U	U
Hydrochloric 25-40%	E	E	E	G	Aluminum Chloride	E	E	E	E	Chlorobenzene	U	U	U	U
Hydrocyanic	E	E	E	E	Aluminum Nitrate	E	E	E	E	Ethyl Acetate	U	U	U	U
Hydrofluoric 10%	E	L	E	G	Aluminum Sulfate	E	E	E	E	Ethyl Chloride	U	U	U	U
Hydrofluorosilicic 30%	E	G	G	L	Ammonium Chloride	E	E	E	E	Ethylene Glycol	E	E	E	E
Hypochlorous 20%	E	E	E	E	Ammonium Nitrate	E	E	E	E	Heptane	E	G	L	U
Lactic 28%	E	E	E	E	Ammonium Persulfate	E	E	E	E	Hexane	E	L	U	U
Maleic	E	E	E	E	Ammonium Sulfate	E	E	E	E	Methyl Ethyl Ketone	U	U	U	U
Nitric 10, 35, 40%	E	G	G	L	Aniline	U	U	U	U	Naphtha	E	E	E	G
Nitric 20%	E	L	G	L	Aniline Sulfate, saturated	U	U	U	U	Trichloroethylene	U	U	U	U
Nitric (vapor) 60%	E	L	G	U	Antimony Trichloride	E	E	E	E	Toluene	U	U	U	U
Nitrous Oxide	E	E	E	E	Barium Chloride	E	E	E	E	Xylene	U	U	U	U
Oleic	E	E	E	E	Barium Sulfide	E	E	E	E	BLEACHES				
Oxalic	E	E	E	G	Calcium Chlorate	E	E	E	E	Calcium Chlorate	E	E	E	E
Perchloric 10%	E	L	G	L	Calcium Chloride	E	E	E	E	Calcium Hypochlorite	E	E	E	E
Phosphoric 0-25%	E	G	E	G	Calcium Sulfate	E	E	E	E	Chlorine Water	E	E	E	E
Phosphoric 25-75%	E	E	E	G	Copper Chloride	E	E	E	E	Hydrogen Peroxide 30%	E	E	E	G
Phosphorus (yellow)	E	G	G	L	Copper Cyanide	E	E	E	E	Hydrogen Peroxide 50%	E	E	E	L
Picric	U	U	U	U	Copper Fluoride 2%	E	E	E	E	Sodium Chlorate	E	G	G	L
Silicic	E	E	E	E	Copper Sulfate	E	E	E	E	Sodium Hypochlorite	E	E	E	E
Stearic	E	E	G	G	Ferric Chloride	E	E	E	E	OTHERS				
Sulfamic (See Benzene Sulfonic 10%)	E	E	E	E	Ferric Nitrate	E	E	E	E	Aluminum Hydroxide	E	E	E	E
Sulfuric 0-75%	E	E	E	G	Ferric Sulfate	E	E	E	G	Ammonium Phosphate	E	E	-	-
Sulfuric 75-90%	E	E	L	L	Ferrous Chloride	E	E	E	E	Aqua Regia	E	L	L	U
Sulfuric 95%	E	G	U	U	Lead Acetate	E	E	E	E	Glycerine	E	E	E	E
Sulfurous	E	E	E	E	Magnesium Chloride	E	E	E	E	Kerosene	E	E	E	E
Tannic	E	E	E	E	Magnesium Hydroxide	E	E	E	E	Photographic Solutions	E	E	E	E
Tartaric	E	E	E	E	Magnesium Sulfate	E	E	E	E	Tetrahydrofurane	U	U	U	U
ALCOHOLS					Mercuric Chloride	E	E	G	G	Sodium Xylene Sulfonate	-	-	-	-
Amyl	E	E	L	U	Mercurous Nitrate	E	E	G	G	Sorbitol Solution	-	-	-	-
Benzol	U	U	U	U	Nickel Chloride	E	E	E	E	Urea	E	E	E	E
Butyl	E	G	L	U	Nickel Nitrate	E	E	E	E	Urea-Ammonium-Nitrate	E	E	E	E
Ethyl 0-98%	E	E	E	E	Nickel Sulfate	E	E	E	E					
Methyl	E	E	E	E	Potassium Chloride	E	E	E	E	PLATING SOLUTIONS				
GASES AND VAPORS					Potassium Dichromate 40%	E	E	E	E	Brass	E	E	E	E
Ammonia, Dry	E	E	E	E	Potassium Ferricyanide	E	E	E	E	Cadmium	E	E	E	E
Ammonia, Wet	L	U	-	-	Potassium Nitrate	E	E	E	E	Chromium	E	G	G	G
Bromine	U	U	U	U	Potassium Permanganate 10%	E	E	G	G	Copper	E	E	E	E
Carbon Dioxide	E	E	E	E	Potassium Persulfate	E	E	E	E	Gold	E	E	E	E
Carbon Monoxide	E	E	E	E	Potassium Sulfate	E	E	E	E	Judium	E	E	E	E
Chlorine, Dry	G	G	G	G	Silver Nitrate	E	E	E	E	Lead	E	E	E	E
Fluorine	L	U	U	U	Sodium Acetate	E	E	E	E	Nickel	E	E	E	E
Hydrogen	E	E	E	G	Sodium Bisulfate	E	E	E	E	Rhodium	E	E	E	E
Hydrogen Sulfide	E	E	E	E	Sodium Chloride	E	E	E	E	Silver	E	E	E	E
Sulfur Dioxide, Wet	G	U	L	U	Sodium Chlorate	E	G	G	L	Tin	E	E	E	E
Sulfur Trioxide, Dry	E	E	E	G	Sodium Cyanide	E	E	E	E	Zinc	E	E	E	G
					Sodium Dichromate	E	E	E	G					

KEY: E = Excellent G = Good L = Limited U = Unsuitable



VIRON® INTERNATIONAL CORP.

OWOSSO, MICHIGAN TEMPLE, TEXAS

989-723-8255

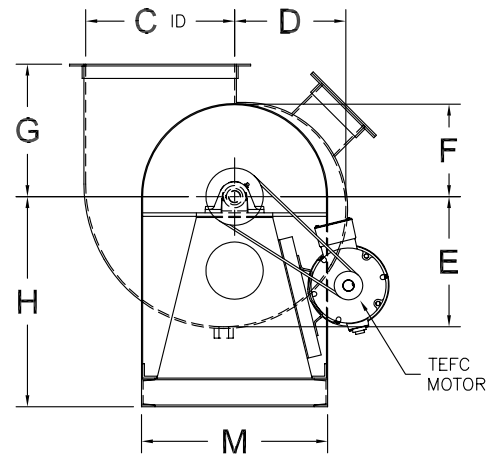
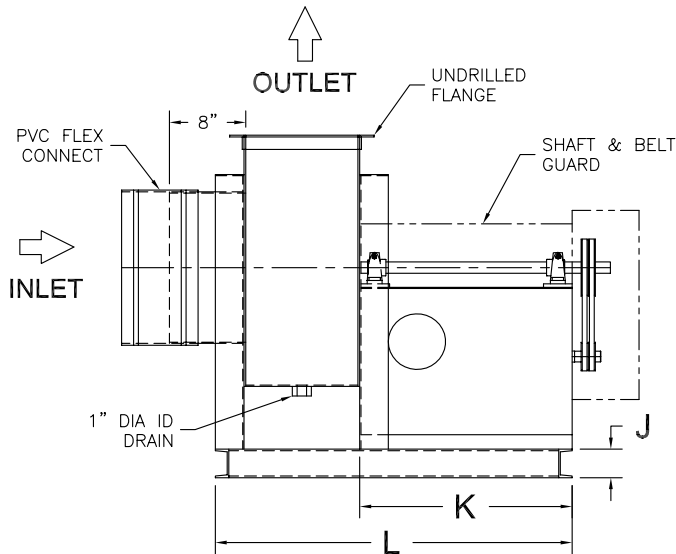
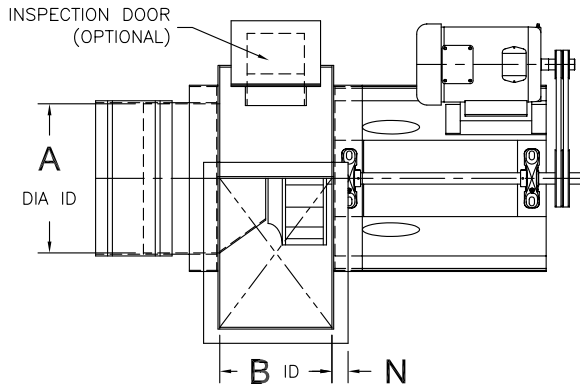
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ENVIRONMENTAL CONTROL SYSTEMS

CENTRIFUGAL FAN SPECIFICATIONS

MODEL NO.	
USER	
REP.	
JOB NO.	DATE
CFM	BHP
S.P.	FAN RPM
ROTATION	HP TEFC MOTOR
DISCHARGE	MOTOR RPM
DRIVE	VOLTS
CLASS	PHASE
ARRANGEMENT	HERTZ
QTY. REQ'D	WEIGHT
TAG NO.	WHEEL MAT'L
FRP	



VCB	WHEEL ø	SHAFT ø	INLET			D	E	F	G	H	J	K	L	M	N	FAN WEIGHT	MOTOR HP	MOTOR WEIGHT
			A	B	C													
1112	12¼"	1¾"	13¾"	9¾"	12¾"	9¼"	11¾"	8¼"	12¾"	19"	3"	18¼"	31¾"	16½"	1½"	219	½	22
1113	13½"	1¾"	14¾"	10¾"	14"	10½"	12¾"	8¾"	12¾"	20"	3"	18¼"	32¾"	17½"	1½"	267	¾	26
1115	15"	1¾"	16¼"	11¾"	15½"	11½"	13¾"	9¼"	13¾"	22"	3"	22¼"	37¾"	19½"	1½"	321	1	36
1116	16½"	1¾"	17¾"	13¾"	17½"	12½"	15"	10½"	14¼"	24"	3"	24¼"	40¾"	21½"	1½"	383	1½	41
1118	18¼"	1¾"	19¾"	14½"	18½"	14"	16¾"	11¾"	15½"	26"	3"	24¼"	42¾"	23½"	1½"	462	2	45
1120	20"	1¾"	21¾"	15¾"	20¾"	15½"	18¾"	12¾"	16¾"	27"	3"	26¼"	45¾"	25½"	1½"	534	3	68
1122	22¼"	2¾"	23¾"	17¾"	23¾"	17½"	20¾"	14"	18¼"	30"	3"	26¼"	47½"	28½"	1½"	618	5	78
1124	24½"	2¾"	26¾"	19½"	25¾"	18½"	22¾"	15¾"	19¾"	32"	3"	26¼"	49¾"	31½"	2"	710	7½	126
1127	27"	2¾"	29¾"	21½"	28¾"	20¾"	24¾"	16¾"	21¾"	35"	3"	27¼"	52¾"	34¾"	2"	820	10	138
1130	30"	2¾"	32¾"	23¾"	31¼"	23¾"	27¾"	19"	23¾"	38"	3"	27¼"	54¾"	38½"	2"	954	15	244
1133	33"	2¾"	34¾"	26¼"	34¾"	25¾"	29¾"	20¾"	25¼"	41"	3"	27¼"	57¾"	41¼"	2"	1,092	20	269
1136	36½"	2¾"	38¾"	29"	38"	28"	33¾"	12¾"	27¾"	46"	4"	28¼"	61¾"	45¼"	2"	1,312	25	396
1140	40¼"	2½"	43"	32"	42"	30½"	36¼"	24½"	29¾"	50"	4"	30¼"	66¾"	49¾"	2"	1,580	30	433
1144	44½"	2½"	47"	35¾"	46½"	34¾"	40¾"	27¾"	33"	55"	4"	32¼"	72¾"	55¾"	2"	1,890	40	517
1149	49"	3¾"	52"	39"	51¾"	37¾"	44¾"	30¼"	36¾"	59"	4"	34¼"	78¾"	60¾"	2"	2,230	50	579
1154	54¼"	3¾"	56¾"	43¾"	56¾"	41¾"	48¾"	33¾"	39¾"	65"	4"	36¼"	84¾"	66¾"	2"	2,600	60	747
1160	60"	3¾"	62"	47¾"	62¾"	45¾"	54"	37¾"	43¾"	71"	4"	38¼"	92½"	70¾"	2"	3,520	75	833
1166	66"	3½"	69¼"	52¾"	68¾"	51¾"	60½"	42¾"	48¾"	81"	8"	43¾"	102¾"	80½"	2"	6,021	100	1,118
1173	73"	4¾"	76"	58"	76"	55¾"	66¾"	45¾"	51¾"	88"	8"	47¾"	112¾"	90¾"	2"	7,819	125	1,238
1180	80¾"	4½"	84"	64¾"	84¼"	61¾"	72¾"	50¾"	57¾"	97"	8"	55¾"	125¾"	99¾"	2"	10,253	150	1,421

1100 SERIES PVC CENTRIFUGAL FAN

FRP CORROSION TABLE

This table may be used as a guide for ventilating gases and vapors from processes where chemicals shown are used.

Maximum temperatures shown.

ENVIRONMENT	°F	ENVIRONMENT	°F	ENVIRONMENT	°F
ACIDS		GASES (cont'd.)		SALTS (cont'd.)	
Acetic to 10%	200	Hydrogen Fluoride , Wet	150	Potassium Permanganate	80
Acetic to 50%	150	Hydrogen Sulfide	200	Potassium Persulfate	140
Acrylic	100	Sulfur Dioxide, Dry	200	Potassium Sulfate	200
Benzene Sulfonic to 25%	170	Sulfur Dioxide, Wet	170	Silver Nitrate	170
Benzene Sulfonic 25% up	80	Sulfur Trioxide, Dry	120	Sodium Acetate	200
Benzoic	200	Sulfur Trioxide, Wet	120	Sodium Bisulfate	200
Boric	200			Sodium Chloride	200
Butyric to 50%	200	ALKALIES		Sodium Chlorite	200
Butyric 50% up	80	Ammonium Bocarbonate	150	Sodium Cyanide	170
Carbonic	200	Ammonium Carbonate	120	Sodium Dichromate	200
Chloracetic to 25%	170	Ammonium Hydroxide to 5%	150	Sodium Ferricyanide	150
Chloracetic 25% to 50%	150	Ammonium Hydroxide to 10%	120	Sodium Fluoride	200
Chromic to 5%	120	Ammonium Hydroxide to 29%	80	Sodium Nitrate	200
Chromic 5% up	N. R.	Aqueous Ammonia to 5%	150	Sodium Nitrite	150
Citric	200	Barium Carbonate	200	sodium Silicate pH Less Than 12	200
Fluoroboric	S 170	Barium Hydroxide to 10%	140	Sodium Sulfate	170
Fluorosilicic up to 32%	S 90	Calcium Hydroxide	170	Sodium Sulfite	200
Formic	F 200	Magnesium Carbonate	200	Stannic Chloride	200
Gluconic to 50%	170	Potassium Bicarbonate	170	Stannous Chloride	200
Hydrobromic to 50%	150	Potassium Carbonate	150	Zinc Chloride	200
Hydrochloric to 15%	*200	Potassium Hydroxide to 50%	120	Zinc Nitrate	170
Hydrochloric to 37%	*150	Sodium Bicarbonate	170	Zinc Sulfite	
Hydrochloric	*F 200	Sodium Carbonate to 35%	150		
Hydrocyanic to 10%	150	Sodium Hydroxide to 10%	N. R.	SOLVENTS	
Hydrofluoric to 10%	S 150	Sodium Hydroxide to 50%	N. R.	Acetone to 10%	F 180
Hydrofluorosilicic up to 30%	140	Sodium Sulfide	150	Benzene	80
Hypochlorous to 20%	170	Trisodium Phosphate	140	Carbon Disulfide	80
Lactic	200			Carbon Tetrachloride	F 140
Maleic	170	SALTS		Chlorobenzene	N. R.
Nitric to 5%	150	Aluminum Chloride	200	Ethyl Acetate	F 100
Nitric above 5%	N. R.	Aluminum Potassium Sulfate	200	Ethyl Chloride	F 90
Nitric (vapor)	F 150	Aluminum Sulfate	200	Ethylene Dibromide	100
Nitrous to 10%	150	Ammonium Chloride	200	Ethylene Glycol	200
Oleic	200	Ammonium Nitrate	200	n-Heptane	200
Oxalic	200	Ammonium Persulfate to 25%	170	Hexane	140
Perchloric	F 150	Ammonium Persulfate , saturated	150	Methyl Ethyl Ketone	80
Phosphoric	170	Ammonium Sulfate	200	Naphtha	200
Phosphoric, super	150	Aniline Sulfate to 25%	200	Naphthalene	200
Phosphoric (vapor)	F 200	Aniline Sulfate, saturated	170	Tetrachloroethylene	80
Phthalic	200	Antimony Trichloride	170	Toluene	80
Picric to 10%	80	Barium Chloride	200	Xylene	80
Silicic	200	Barium Sulfide	170		
Stearic	200	Calcium Chlorate	200	BLEACHES	200
Sulfamic, (see Benzene Sulfonic up to 25%)	170	Calcium Chloride	200	Calcium Chlorate	200
Sulfuric to 25%	190	Calcium Sulfate	200	Calcium Hypochlorite	170
Sulfuric to 50%	140	Copper Chloride	200	Chlorine Dioxide up to 15%	170
Sulfuric to 70%	80	Copper Cyanide	200	Chlorine Water	120
Sulfuric to 98% (Oleum)	N. R.	Copper Fluoride	150	Hydrogen Peroxide to 10%	80
Sulfurous to 10%	170	Copper Oxychloride	150	Hydrogen Peroxide to 30%	120
Tannic	200	Copper Sulfate	200	Sodium Chlorate	F 170
Tartaric	200	Ferric Chloride	200	Sodium Hypochlorite	
Trichloroacetic to 50%	170	Ferric Nitrate	170		
		Ferric Sulfate	200	OTHERS	
ALCOHOLS		Ferrous Chloride	200	Aluminum Chlorohydroxide	200
Amyl	170	Ferrous Nitrate	200	Ammonium Phosphate	200
Benzyl	100	Ferrous Sulfate	200	Aqua Regia	F 80
Butyl	140	Lead Acetate	200	Detergents	150
Ethyl	80	Magnesium Chloride	200	Glycerine	200
Methyl	80	Magnesium Hydroxide	170	Kerosene	200
		Magnesium Sulfate	200	Photographic Solutions	90
GASES AND VAPORS		Mercuric Chloride	200	Perchlorethylene	80
Ammonia, Dry	170	Mercurous Chloride	200	Sodium Tetraborate	200
Ammonia, Wet	150	Nickel Chloride	200	Sodium Tripolyphosphate	200
Bromine	100	Nickel Nitrate	200	Sodium Xylene Sulfonate	150
Carbon Dioxide	200	Nickel Sulfate	200	Sorbitol Solution	200
Carbon Monoxide	200	Potassium Chloride	200	Urea	140
Chlorine	N. R.	Potassium Dichromate	170	Urea-Ammonium-Nitrate	120
Fluorine	200	Potassium Ferricyanide	200	8-8-8 Fertilizer	120
		Potassium Nitrate	200	Shell D-D	N. R.
				Steam, Etc	180

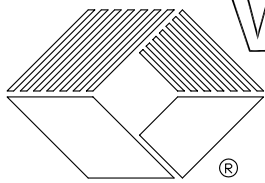
N. R. = Not Recommended

F = Fumes Only

S = Surfacing Mat

* Special hardware recommended; contact factory.

Note: Except where prefixed by "F" the resin manufacturers figures are for immersion and the resistance is higher where exposure to fumes only is required



VIRON® INTERNATIONAL CORP.

OWOSSO, MICHIGAN TEMPLE, TEXAS

989-723-8255

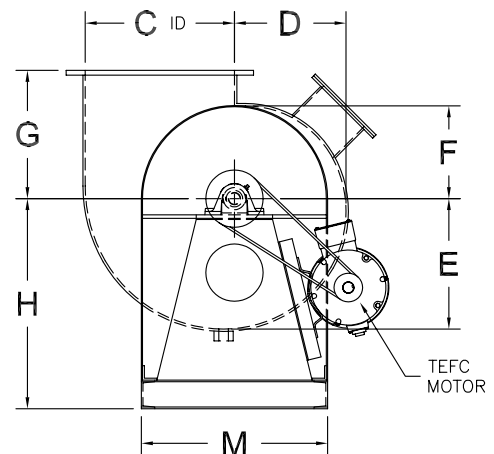
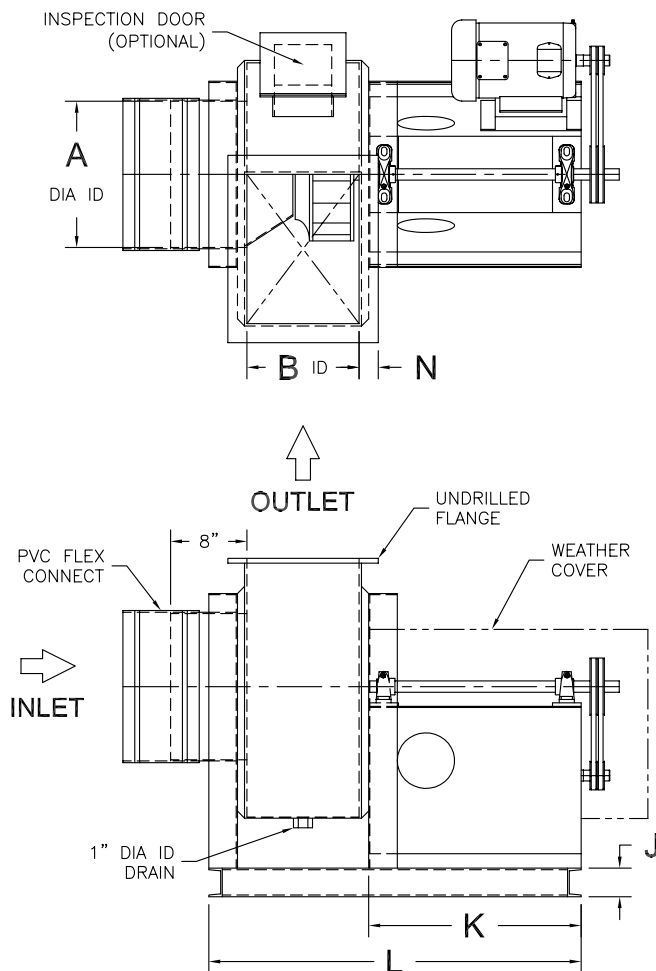
989-723-8417 FAX

EMAIL: info@vironintl.org

ENVIRONMENTAL CONTROL SYSTEMS

CENTRIFUGAL FAN SPECIFICATIONS

MODEL NO.	
USER	
REP.	
JOB NO.	DATE
CFM	BHP
S.P.	FAN RPM
ROTATION	HP TEFC MOTOR
DISCHARGE	MOTOR RPM
DRIVE	VOLTS
CLASS	PHASE
ARRANGEMENT	HERTZ
QTY. REQ'D	WEIGHT
TAG NO.	WHEEL MAT'L
	FRP



VCB	WHEEL ø	SHAFT ø	INLET			D	E	F	G	H	J	K	L	M	N	FAN WEIGHT	MOTOR HP	MOTOR WEIGHT
			A	B	C													
1112	12¼"	1¾"	12⅞"	9¼"	12⅞"	10"	11¼"	8¼"	12⅞"	19"	3"	18¼"	32½"	16½"	2"	220	½	22
1113	13½"	1¾"	14¼"	10¾"	14"	10⅞"	12⅝"	8⅝"	13"	20"	3"	18¼"	34"	17½"	2"	271	¾	26
1115	15"	1¾"	15⅝"	11¾"	15⅝"	11⅝"	13⅝"	9¾"	13⅝"	22"	3"	22¼"	39"	19½"	2"	349	1	36
1116	16½"	1⅞"	17⅝"	13⅝"	17⅝"	12⅝"	14⅞"	10⅝"	14⅞"	24"	3"	24¼"	42⅞"	21½"	2"	391	1½	41
1118	18¼"	1⅞"	19"	14½"	19"	14⅞"	16⅞"	11⅝"	15⅝"	26"	3"	24¼"	43¾"	23½"	2"	489	2	45
1120	20"	1⅞"	21"	15⅝"	20⅝"	15⅝"	18⅝"	12⅝"	16¾"	27"	3"	26¼"	47⅝"	25½"	2"	558	3	68
1122	22¼"	2⅜"	24"	17⅝"	23¼"	17⅝"	20⅝"	14⅞"	18⅝"	30"	3"	26¼"	48⅞"	28½"	2"	647	5	78
1124	24½"	2⅜"	26"	19½"	25½"	18⅝"	22¼"	14⅝"	20⅝"	32"	3"	26¼"	50⅝"	31½"	2"	720	7½	126
1127	27"	2⅜"	29"	21½"	28"	20⅝"	24⅞"	17⅞"	21⅝"	35"	3"	27¼"	53¼"	34⅝"	2"	892	10	138
1130	30"	2⅜"	32"	23¼"	31¼"	23⅞"	27⅞"	19"	23⅞"	38"	3"	27¼"	56¼"	38½"	3"	1,050	15	244
1133	33"	2⅞"	34½"	26¼"	34¼"	25⅞"	29⅞"	20⅝"	25⅝"	41"	3"	27¼"	59¼"	41¼"	3"	1,242	20	269
1136	36½"	2⅞"	38½"	29"	38"	28"	33"	28"	27⅝"	46"	4"	28¼"	63¾"	45¼"	3"	1,552	25	396
1140	40¼"	2⅝"	42¼"	32"	42"	30⅞"	36⅞"	25⅝"	29¾"	50"	4"	30¼"	67¾"	49⅝"	3"	1,722	30	433
1144	44½"	2⅝"	46½"	35⅝"	46⅝"	34⅞"	40⅝"	28⅞"	32⅝"	55"	4"	32¼"	74¾"	54⅞"	3"	2,153	40	517
1149	49"	3⅜"	51¼"	39"	51⅝"	37⅝"	44⅝"	30⅞"	35⅞"	59"	4"	34¼"	81"	60⅞"	3"	2,760	50	579
1154	54¼"	3⅜"	56¼"	43⅞"	56¼"	41⅝"	49⅞"	34⅝"	39¼"	65"	4"	36¼"	87"	67"	4"	2,950	60	747
1160	60"	3⅞"	62"	47¼"	62¼"	46⅞"	54⅞"	37⅞"	43⅝"	71"	4"	38¼"	93¼"	70½"	4"	3,760	75	833
1166	66"	3⅝"	69"	52⅝"	68⅝"	50⅝"	59⅝"	41⅞"	47¼"	77"	4"	44"	106⅝"	80⅞"	4"	6,326	100	1,118
1173	73"	4⅞"	76"	58"	75⅝"	56"	66"	46"	51½"	84"	4"	47⅝"	115⅞"	90⅝"	4"	7,907	125	1,238
1180	80¾"	4⅝"	84"	64⅞"	83⅝"	62"	73⅝"	50⅞"	56½"	93"	4"	55⅝"	130½"	99⅝"	4"	10,573	150	1,421

1100 SERIES FRP CENTRIFUGAL FAN

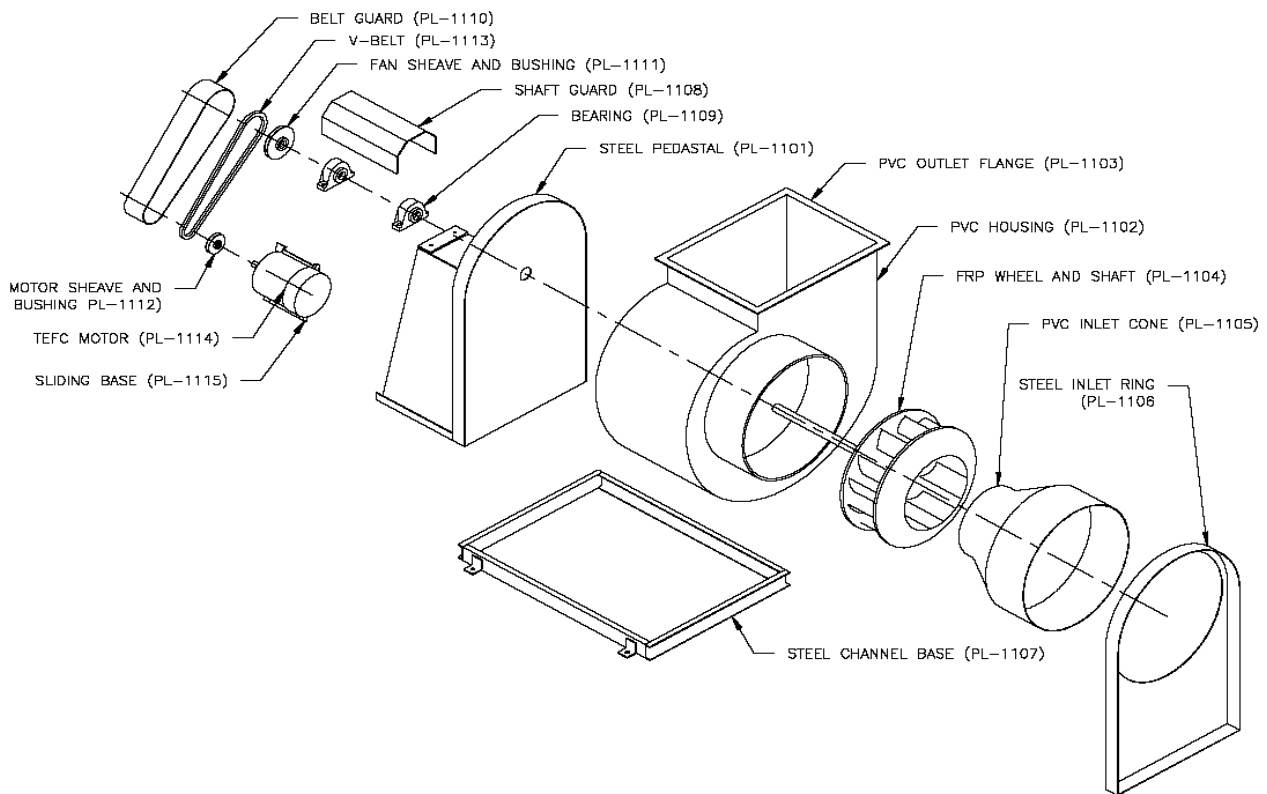
TYPICAL VIRON® APPLICATIONS

Anodizing	Metal Recovery
Batteries	Metal Cleaning
Breweries	Municipal Waste Treatment
Chemical Filling Operations	Pharmaceuticals
Chemical Industries	Phosphating
Clean Rooms	Photographic
Coatings	Pickling
Electro-Chemical Machining	Plastics Manufacturing
Emergency Chlorine	Plating
Etching	Printed Circuits
Fish Processing	Pulp & Paper
Food Processing	Refining
Foundry	Semiconductors
Glass	Stripping
Industrial Waste Treatment	Tank Venting
Laboratories	Textiles
Medical	

PARTIAL CUSTOMER LIST

3M	Hitachi
Alcoa	Hughes Aircraft
Anheuser Busch	IBM
AT & T	John Deere
Bendix	Lockheed
Boeing Aircraft	Mortom Thiokol
Caterpillar	Motorola
Chrysler Corp.	Northern Telecom
Delco Electronics	Occidental Chemical
Digital Corp.	Perkin Elmer
Dow Chemical	Pfizer Chemical
Dupont	Pratt Whitney
Eli Lilly	Sandia National Lab
Federal Mogul	SEH America
Ford Electronics	Sematech
General Dynamics	Signetics Corp.
General Electric	Square D
General Motors	Sundstrand Corp.
GTE	Texas Instruments
Harris Semiconductor	Unisys
Hewlett Packard	Westinghouse Corp.

SERIES VCB-1100 PARTS LIST



PARTS LIST

PL-1101 - Steel Pedestal
 PL-1102 - FRP Housing
 PL-1103 - FRP Outlet Flange
**PL-1104 - FRP Wheel & Shaft*
 PL-1105 - FRP Inlet Cone
 PL-1106 - Steel Inlet Ring
 PL-1107 - Steel Channel Base
 PL-1108 - Shaft Guard

PARTS LIST (Cont.)

**PL-1109 - Bearings*
 PL-1110 - Belt Guard
 PL-1111 - Fan Drive
 PL-1112 - Motor Drive
**PL-1113 - Belts*
 PL-1114 - Motor
 PL-1115 - Motor Sliding Base

** Suggested Spare Parts*

• LIMITED WARRANTY

VIRON® INTERNATIONAL warrants to the dealers and owners its VIRON® products and parts to be free from defects in workmanship and material under normal use and services for one (1) year after the date of shipment by VIRON to the first retail purchaser or first user: if and only if VIRON® is notified in writing of the defect within fourteen (14) days from date that the defect is discovered. Written notice of defects discovered within the final fourteen (14) days of the warranty period must be sent to VIRON® via facsimile or first class mail prior to the expiration of the warranty period otherwise this warranty shall be void. Our obligation under this warranty is expressly limited to repairing or replacing at our option, without cost at our factory any part or parts thereof which shall be returned to and received by VIRON® within such warranty period with transportation charges both to and from VIRON® prepaid, and which our examination shall disclose to our satisfaction to have been defective. In the event a defect is discovered within the final seven days of the warranty period, the returned goods must be received by VIRON® at VIRON®'s facility within seven days following expiration of the warranty period. Any request for repair or replacement should be directed to VIRON® INTERNATIONAL, Owosso, MI.

If examined equipment is found not to be defective or for some other reason not to be within the warranty coverage, seller's service time expended on and off location will be charged to the purchaser. This warranty gives you specific legal rights which vary from state to state. FAILURE TO PAY THE INVOICE IN FULL WILL RESULT IN VOIDING ANY AND ALL WARRANTIES.

• LIMITATION OF WARRANTY AND LIABILITY

This warranty does not apply to such VIRON® products and parts which in the sole judgment of VIRON® have failed as a result of faulty installation or abuse, or incorrect electrical connections or alterations, made by others, or use under abnormal operating conditions or misapplication of products and parts.

This warranty does not apply to damage resulting from shipment or storage of VIRON® products. Purchaser acknowledges that VIRON® products contain rotating parts that may be damaged by the forces of nature if not installed or put to their intended use within seven (7) days of delivery. **THIS WARRANTY DOES NOT COVER COMPONENT PARTS THAT CARRY A SEPARATE WARRANTY FROM THE MANUFACTURER OF THE COMPONENT PART.**

VIRON® will not approve for payment any repair made outside its factory without prior written consent of its Owosso, Michigan office. The foregoing shall constitute our sole and exclusive warranty and our sole and exclusive liability and is in lieu of all other warranties, whether written, oral, implied or statutory.

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Centrifugal Fan
VCF-100



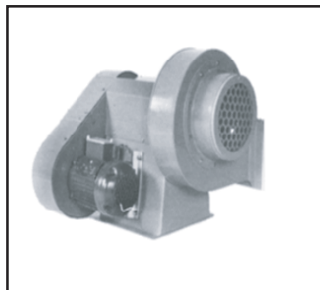
Inline Centrifugal Fan
VIF-200



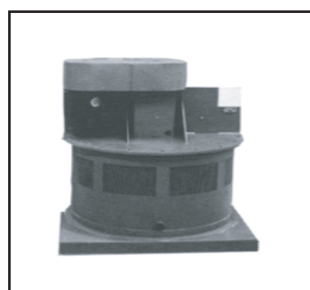
Radial Blower
VRB-600



Lab Blower
VLB-700



PushBlower
VPB-800



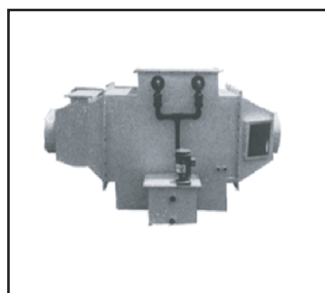
Roof Ventilator
VRV-900



Centrifugal Fan
VCB-1100



Gravity Relief Ventilator
VGR-1300



Horizontal Scrubber
VHS-Series



Vertical Scrubber
VVS-Series



Blower-Scrubber
VBS-Series



VIRO-CHROME 9000®
VCS-Series



VI-A-DUC®
FM Approved PVC Duct



VIRO-DUC®
FM Approved FRP Duct



SSTEELCOAT®
FM Approved Duct



FRP Duct
ICBO Approved



VI-A-TROL®
AMCA Approved Damper



PVC & FRP
Blastgates



FRP Parallel
Blade Damper



FRP Fixed Louver



VIRON® INTERNATIONAL CORP.

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