

CHICAGO

VANE AXIAL

VAV VARIABLE AIR VOLUME **FANS**



DIRECT
CONNECTED
ARRANGEMENT 4

DESIGN
47

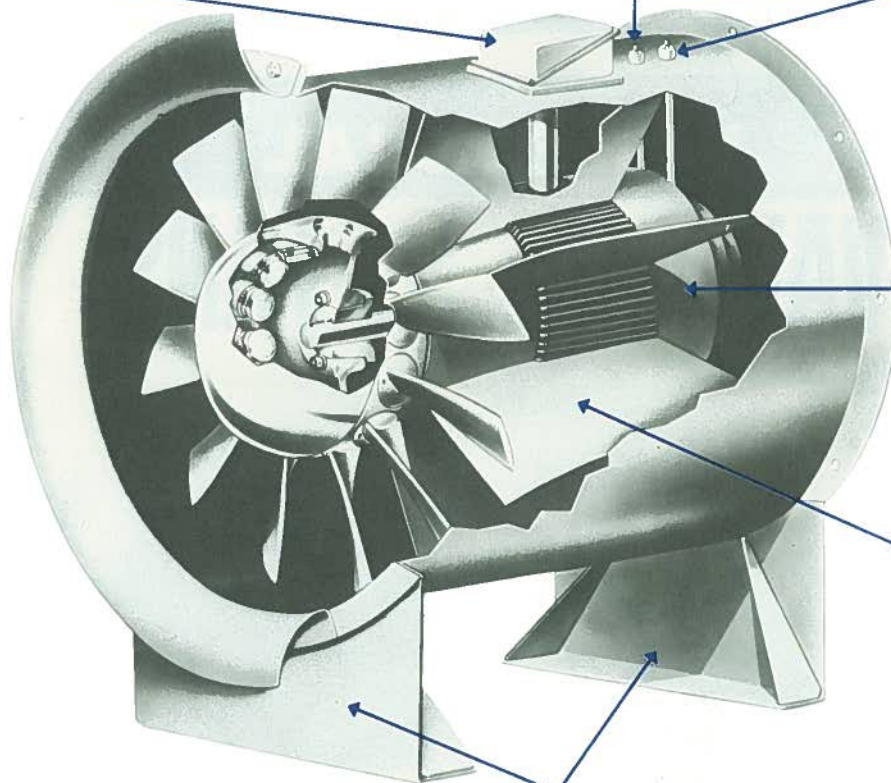
CHICAGO BLOWER CORPORATION

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CONSTRUCTION FEATURES

EXTERNAL MOTOR
CONDUIT BOX

EXTERNAL
BEARING
LUBRICATION



MOTOR
(TEAO FLANGE
MOUNTED)

AIR GUIDE VANES

MOUNTING FEET
(OPTIONAL)

PERFORMANCE CHARACTERISTICS

- 1. PRESSURE RANGE:** To 20 inches total pressure*
- 2. VOLUME RANGE:** To 300,000 CFM*
- 3. SIZE RANGE:** 17 sizes 16-1/2 to 81-1/8 inches diameter

- 4. TEMPERATURE RANGE** —50°F to 180°F Ambient
- 5. LOW SOUND LEVEL:** Less than competitive Vane Axial Fans for equivalent volume and pressure
- 6. HIGH EFFICIENCY:**Total efficiencies to above 80%

*These limits may be exceeded by modification

DESIGN ADVANTAGES

- 1. FLEXIBLE PERFORMANCE:**
Blade pitch may be changed to increase or decrease volume and pressure over a wide range for system balancing, seasonal changes or future expansion or reduction in air needs.
- 2. INSTANT ADJUSTABILITY:**
Readily accessible set screw permits blade pitch changes in seconds.
- 3. SPACE SAVINGS:**
Compact design requires up to 90% less space than conventional Centrifugal Fans and facilitates in-line mounting off the floor.

- 4. LOW INSTALLATION COST:**
Smaller size results in up to 50% less weight, reduces shipping, handling and foundation costs.
- 5. LOW MAINTENANCE COST:**
Direct Drive eliminates separate fan bearings, fan shaft, sheaves and belts.
- 6. CERTIFIED PERFORMANCE RATED FOR AIR AND SOUND**

HUB

Single piece cast from high strength aluminum alloy and precision machined to accept adjustable blades

BUSHING

Quick detachable split taper lock with locking set screw for positive attachment to shaft.

ADJUSTABLE PITCH

Aluminum Alloy Wheel

QUICK ADJUSTMENT SET SCREW

BLADE POSITION INDEX

NOSE

Streamlined spun aluminum—covers internal wheel mounting parts and helps guide air into the blades in an efficient flow pattern.

BLADE

Single piece cast from high strength aluminum alloy and precision machined to close tolerance fit in hub socket

AMCA LICENSED

Chicago Blower Corporation certifies that the Vaneaxial fans shown herein are licensed to bear the AMCA Seal.

Performance shown is for Vaneaxial fans with inlet bell and outlet duct.



FAN SELECTION GUIDELINES

ALTITUDE AND TEMPERATURE CORRECTION FACTORS

The VAV Adjustable Pitch Fans were tested and rated on the basis of handling air at standard density of .075 lb./ft.³.

In order to properly select a fan for operation at any other temperature or altitude, it is necessary to correct the pressure from operating density to standard density, select the fan, then correct the required horsepower from standard to operating conditions.

The correction factor chart below gives the ratio of actual to standard densities at various temperature and altitude conditions. Apply the factors as follows:

$$Ps \text{ Standard} = Ps \text{ Actual} \div \text{Factor}; \quad BHP \text{ Actual} = BHP \text{ Standard} \times \text{Factor}$$

For example:

Required Duty: 30,000 CFM at 1.58" Ps at 120°F. at 4000' elevation

From Chart: Factor is .790

$$\frac{1.58''}{.790} = 2.0'' \text{ Ps at Standard}$$

Select fan model from Quick Selector table: 4450 - B12 - 1160

BHP at Standard = 14.6

$$BHP \text{ at Operating Conditions} = 14.6 \times .790 = 11.53$$

Air Temp. °F.	ALTITUDE - FEET ABOVE SEA LEVEL												
	0	500	1000	1500	2000	3000	4000	5000	6000	7000	8000	9000	10000
	BAROMETRIC PRESSURE - INCHES MERCURY												
	29.92	29.38	28.86	28.33	27.82	26.82	25.84	24.90	23.98	23.09	22.22	21.39	20.58
-20	1.205	1.183	1.162	1.141	1.121	1.080	1.041	1.000	.965	.930	.895	.860	.829
-10	1.178	1.157	1.136	1.116	1.096	1.055	1.018	.980	.944	.909	.875	.841	.810
0	1.152	1.131	1.111	1.091	1.071	1.032	.995	.958	.923	.889	.856	.823	.793
+10	1.128	1.108	1.087	1.068	1.049	1.011	.975	.938	.904	.871	.838	.805	.776
20	1.104	1.084	1.064	1.045	1.027	.989	.954	.919	.884	.852	.820	.788	.760
30	1.082	1.063	1.043	1.025	1.006	.969	.935	.900	.867	.835	.804	.773	.744
40	1.060	1.041	1.022	1.004	.986	.950	.916	.882	.849	.818	.788	.757	.729
50	1.039	1.020	1.002	.984	.966	.931	.898	.864	.832	.802	.772	.742	.715
60	1.019	1.001	.982	.965	.948	.913	.880	.848	.816	.787	.757	.728	.701
70	1.000	.982	.964	.947	.930	.896	.864	.832	.801	.772	.743	.714	.688
80	.982	.964	.947	.930	.913	.880	.848	.817	.787	.758	.730	.701	.676
90	.964	.947	.929	.913	.897	.864	.833	.802	.772	.744	.716	.688	.663
100	.946	.929	.912	.896	.880	.848	.817	.787	.758	.730	.703	.675	.651
120	.914	.898	.881	.866	.850	.819	.790	.760	.732	.706	.679	.653	.629
140	.883	.867	.851	.836	.821	.791	.763	.735	.707	.682	.656	.630	.608
160	.855	.840	.824	.810	.795	.766	.739	.711	.685	.660	.635	.610	.588
180	.828	.813	.798	.784	.770	.742	.715	.689	.663	.639	.615	.591	.570
200	.803	.789	.774	.760	.747	.720	.694	.668	.643	.620	.597	.573	.552

Unity basis is standard air density of .075 lb./ft.³. This is equivalent to dry air at 70°F. at Sea Level (29.92" Hg Barometric Pressure).

BASIC FAN LAWS

Changes in volume, pressure, and horsepower occur in accordance with the fan laws when fan speed and/or gas density change while the fan is applied to a fixed system. When operating density is other than standard (.075#/ft.³), pressure must be corrected to standard conditions for fan selection and horsepower must be corrected from standard to operating conditions as in the example above. Performance may be adjusted according to the fan laws by changing fan speed.

Constant: Variable:	Density (D) Speed (N)	Speed (N) Density (D)
Volume (Q) Change	$Q_2 = Q_1 \left(\frac{N_2}{N_1} \right)$	No Change
Pressure (P) Change	$P_2 = P_1 \left(\frac{N_2}{N_1} \right)^2$	$P_2 = P_1 \left(\frac{D_2}{D_1} \right)$
HP (H) Change	$H_2 = H_1 \left(\frac{N_2}{N_1} \right)^3$	$H_2 = H_1 \left(\frac{D_2}{D_1} \right)$

THE TOTAL PRESSURE CONCEPT

Chicago Blower's VAV Adjustable Pitch fan curves are published in terms of Total Pressure. The selection tables in this bulletin are published in terms of Static Pressure.

Total Pressure = Static Pressure + Velocity Pressure

Velocity Pressure = $\left(\frac{Q}{A \times 4005}\right)^2$ where A = cross sectional area at the flow point considered.

"Static Pressure" is unrelated to air motion. It is a pressure that exerts a force equal in all directions, like the air pressure in a balloon or pressure vessel, and can be Positive or Negative.

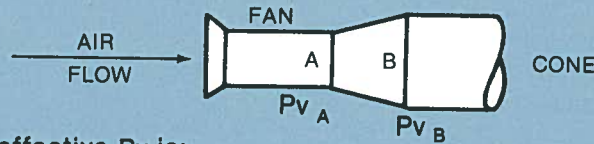
"Velocity Pressure" is the kinetic energy applied to motion or speed of the air through a duct system. It is always Positive in character.

A fan "sees" only Total Pressure. It cannot recognize Static or Velocity Pressure as separate quantities. Therefore, the "Total Pressure Concept" must be considered to assure that any variation in the actual installation from the installation in which the fan was tested is accounted for.

A fan is normally tested blowing into a duct of the same cross-sectional area as the fan outlet. When it is rated on Static Pressure, the rating is based on Total Pressure minus Velocity Pressure in the test duct. The rating is only valid if the fan is installed similar to the test setup; if it is not, the true Static Pressure capability will be greater or less than the rated Static Pressure. The difference will be the difference between actual Velocity Pressure and the Velocity Pressure based on the fan area.

USE OF OUTLET OR INLET CONE

Cones may be used to transition from the fan to ducts larger or smaller than the fan. Outlet cones may also be used to minimize Velocity Pressure loss and regain Static Pressure. Air leaves a diverging discharge cone (Point B at a lower velocity than at the cone inlet (Point A); therefore, at a lower Velocity Pressure. Consequently, more of the fan's Total Pressure capability is available for Static Pressure than would be available with the fan blowing into a duct of diameter equal to the fan.



For the Standard VAV cone effective Pv is:

$$Pv_E = Pv_A - (Pv_A - Pv_B) \cdot 0.8$$

Where a cone is used, the rated Static Pressure (see Quick Selection Table) is increased by the amount equal to $Pv_A - Pv_E$.

Where the fan has an open discharge (does not blow into a cone, duct or transition), the Velocity Pressure must be based on the annular area; that is, the fan casing area minus the hub area. Since annulus velocity is generally very high, the benefit of using a cone when discharging to atmosphere is obvious.

Note: AMCA certified ratings seal do not apply when factors are used.

FAN AREAS (FT²)

FAN SIZE	CASING AREA	CONE AREA	ANNULAR AREAS			
			HUB A	HUB B	HUB LB	HUB C
1650	1.48	2.18	0.66	—	—	—
1825	1.82	2.70	1.00	—	—	—
2000	2.18	3.27	1.36	—	—	—
2225	2.70	3.98	1.88	—	—	—
2450	3.27	4.91	2.45	1.45	—	—
2700	3.98	5.94	3.16	2.16	—	—
3000	4.91	7.27	4.09	3.09	—	—
3300	5.94	8.84	5.12	4.12	—	—
3650	7.27	10.80	6.45	5.45	—	3.22
4025	8.84	13.10	—	7.02	5.50	4.79
4450	10.80	16.05	—	8.98	7.46	6.75
4900	13.10	19.63	—	11.28	9.76	9.05
5425	16.05	24.12	—	14.23	12.71	12.00
6000	19.63	29.07	—	—	—	15.58
6650	24.12	35.89	—	—	—	20.07
7300	29.07	44.17	—	—	—	25.02
8112	35.89	54.54	—	—	—	31.84

FAN APPLICATION FORMULAS

$$*d = 1.326 \times \frac{P_b}{\circ F + 460}$$

$$P_t = P_s + P_v$$

$$*P_v = \left(\frac{Q}{A \times 4005} \right)^2 = \left(\frac{V}{4005} \right)^2$$

$$\text{FAN BHP} = \frac{Q \times P_t}{6362 \times \eta_t} = \frac{Q \times P_s}{6362 \times \eta_s}$$

$$\text{For 3 phase motors: BHP output} = \frac{E \times I \times ME \times Pf \times 1.73}{746}$$

$$\text{For 3 phase motors: Kw input} = \frac{E \times I \times Pf \times 1.73}{1000}$$

$$\text{For 1 phase motors: BHP output} = \frac{E \times I \times ME \times Pf}{746}$$

$$\text{For 1 phase motors: Kw input} = \frac{E \times I \times Pf}{1000}$$

To plot a System Curve where P_{s1} and Q_1 are known, use the following formula to find other curve points:

$$P_{s2} = P_{s1} \left(\frac{Q_2}{Q_1} \right)^2$$

To determine round duct equivalent of rectangular duct for same friction loss and volumetric capacity:

$$DR = 1.265 \sqrt[5]{\frac{(ab)^3}{a+b}}$$

*Formulas for d and P_v are applicable to dry air only.

SYMBOL	DEFINITION
A	area (Ft ²)
a	side a of rectangular duct
b	side b of rectangular duct
BHP	brake horsepower
Q	air volume flow (Ft ³ /min.)
d	air density (lb/Ft ³)
DR	Diameter of round duct
E	volts
°F	temperature (degrees Fahrenheit)
I	amps
Kw	kilowatts
ME	motor efficiency (decimal)
η_s	fan static efficiency (decimal)
η_t	fan total efficiency (decimal)
Pb	barometric pressure (inches mercury)
Pf	power factor
P _s	static pressure (inches WG)
P _t	total pressure (inches WG)
P _v	velocity pressure (inches WG)
V	velocity (Ft./min)

FAN SOUND DATA

Chicago Blower VAV Adjustable Pitch Vane Axial Fans have been carefully noise tested in accordance with AMCA Standard Test Code No. 300 for Sound Rating of Air Moving Devices.

Certified Sound Rating data is published with the VAV air performance curves and is available upon request. The data includes Sound Power levels for each fan size and speed at each of eight blade pitch angles at low, medium and high total pressure levels and in each of the eight octave bands. From this data Sound Power Levels may be determined for any point of operation by straight line interpolation.

Sound Pressure ratings for all VAV fans, in terms of dBA levels, are also published and available with the air performance curves. These ratings are calculated from the "A" weighting network and must be considered estimates only as they are based on assumed room dimensions, room construction, fan location and type installation (Type B per AMCA Publication 303). dBA levels vary with these conditions plus the contri-

bution of noise by other sources in the same area; therefore, they can only be precisely determined with the knowledge of actual conditions at the installation site in question.

The published sound data for the VAV fans is as nearly complete as it is possible to provide. It permits the engineer to compare noise levels accurately with other fans if they are also accurately tested and rated according to the AMCA Code; it permits him to estimate dBA levels quickly without calculation; and it gives him the information he needs to calculate dBA levels for specific installations.

For applications requiring lowest noise levels, Chicago Blower has attenuators available which are designed specifically for the VAV fan characteristics. Vane Axial fans are easier and less costly to attenuate than Centrifugal fans. An attenuated VAV fan can provide lowest noise levels at low cost within minimum building space.

VAV FAN MODEL NUMBERS

Fan Model numbers reflect in order:

Fan Diameter
Hub Series
Number of Blades
Fan Speed

Example: For Model 3650-B12-1760

Fan Diameter = 36-1/2"
Hub Series = B
Number of Blades = 12
Fan Speed = 1760 RPM

QUICK FAN SELECTION TABLES

The Quick Selection tables provide fan selections for certain volumes from 4,000 CFM through 350,000 CFM and Static Pressures from 0.5" Ps through 16.0" Ps. For volumes and pressures between those listed in the chart, select the fan for the next highest tabulated duty as preliminary, then make final selection by referring to the curves. Usually, the preliminary selection or the next smaller size will be the final choice.

Selections are based on standard air density of .075# / ft.³, dry air at 70°F. and Sea Level. Corrections must be made at other conditions (see P.6). Selections are also based on the fan blowing into a duct of the same diameter as the fan and velocity pressure is based on the duct area.

Three alternate selections are offered for each duty where possible. They are designated by code letters as:

O = Optimum
L = Least Initial Cost
E = Highest Efficiency

Following the Model Number in the table are two numbers. The first, in parentheses, is the performance curve Page No. and the second is the BHP.

For example, optimum selection for 70,000 CFM at 2.5" Ps is listed as Model.

6650-C6-890(161) 43.0

Performance curve is on Page 161 of the curve set

BHP = 43.0

Reference to performance curve 161 will provide outlet velocity, total pressure, blade pitch angle, operating point on the curve and range of performance adjustment possible within the capacity of the motor selected.



VAV Adjustable Pitch Fan Quick Selection Chart

		FAN SIZE					
VOLUME (CFM)		0.5 Ps	1.0 Ps	1.5 Ps	2.0 Ps	2.5 Ps	3.0 Ps
4,000	O	2225-A6-1160 (93) .56	2000-A6-1760 (91) 1.2	2000-A6-1760 (91) 1.6	2000-A12-1760 (8) 2.0	1650-A6-3500 (86) 4.1	1650-A6-3500 (86) 4.6
	L	2000-A6-1760 (91) .98	2000-A6-1760 (91) 1.2	2000-A6-1760 (91) 1.6	2000-A12-1760 (8) 2.0	1650-A6-3500 (86) 4.1	1650-A6-3500 (86) 4.6
	E	2450-A6-1160 (96) .52	2225-A12-1160 (10) .95	2000-A6-1760 (91) 1.6	2225-A12-1760 (11) 1.9	1650-A6-3500 (86) 4.1	1650-A6-3500 (86) 4.6
5,000	O	2225-A6-1160 (93) .87	2225-A6-1760 (94) 1.4	2225-A6-1760 (94) 1.8	2000-A12-1760 (8) 2.6	2225-A12-1760 (11) 2.9	2450-B6-1760 (113) 4.1
	L	2000-A6-1760 (91) 1.5	2225-A6-1760 (94) 1.4	2225-A6-1760 (94) 1.8	1825-A6-3500 (89) 4.7	1825-A6-3500 (89) 4.9	1825-A12-3500 (89) 5.2
	E	2450-A6-1160 (96) .68	2225-A12-1160 (10) 1.3	2225-A6-1760 (94) 1.8	2225-A12-1760 (11) 2.4	2225-A12-1760 (11) 2.9	2450-B6-1760 (113) 4.1
6,000	O	2450-A6-1160 (96) .92	2450-A6-1760 (97) 1.6	2450-A6-1760 (97) 2.1	2225-A12-1760 (11) 2.8	2450-B6-1760 (113) 4.8	2450-B6-1760 (113) 5.4
	L	2225-A6-1760 (94) 1.4	2225-A6-1760 (94) 1.8	2225-A6-1760 (94) 2.3	2225-A12-1760 (11) 2.8	1825-A6-3500 (89) 6.2	1825-A6-3500 (89) 7.0
	E	2700-A6-1160 (100) .79	2225-A12-1160 (10) 1.7	2450-A6-1760 (97) 2.1	2225-A12-1760 (11) 2.8	2450-B6-1760 (113) 4.8	2450-B6-1760 (113) 5.4
8,000	O	2450-A6-1160 (96) 1.7	2450-A12-1160 (13) 2.3	2450-A6-1760 (97) 3.1	2450-A6-1760 (97) 4.2	2450-A12-1760 (14) 4.7	2700-B6-1760 (117) 6.5
	L	2225-A6-1760 (94) 2.5	2450-A6-1760 (97) 2.4	2450-A6-1760 (97) 3.1	2450-A6-1760 (97) 4.2	2450-A12-1760 (14) 4.7	2000-A6-3500 (92) 8.7
	E	3000-A6-890 (103) 1.1	2700-A12-1160 (17) 2.0	2700-A6-1760 (101) 2.8	2700-A6-1760 (101) 3.6	2700-A12-1760 (18) 4.6	2700-B6-1760 (117) 6.5
10,000	O	2700-A6-1160 (100) 2.0	2700-A12-1160 (17) 2.8	2450-A6-1760 (97) 4.6	2700-A6-1760 (101) 4.9	2450-A12-1760 (14) 6.3	2700-B12-1760 (34) 8.8
	L	2450-A6-1760 (97) 2.9	2700-A6-1760 (101) 2.9	2450-A6-1760 (97) 4.6	2700-A6-1760 (101) 4.9	2450-A12-1760 (14) 6.3	2225-A6-3500 (97) 9.9
	E	3300-A6-1160 (107) 1.3	3000-A12-1160 (21) 2.7	2700-A6-1760(101) 3.8	3000-A6-1760 (105) 4.7	2700-A12-1760 (18) 5.8	2700-B12-1760 (34) 8.8
14,000	O	3300-A6-1160 (107) 2.5	3000-A6-1760 (107) 4.4	3000-A6-1760 (105) 5.4	3000-A12-1760 (22) 6.8	3000-A12-1760 (22) 6.8	3000-B6-1760 (121) 11.8
	L	2700-A6-1760 (100) 4.4	3000-A6-1760 (105) 4.4	3000-A6-1760 (105) 5.4	3000-A12-1760 (22) 6.8	3000-A12-1760 (22) 6.8	2450-A6-3500 (98) 13.8
	E	3650-A6-1160 (110) 2.1	3000-A12-1160 (21) 4.3	3300-A6-1760 (108) 5.1	3300-A12-1760 (25) 6.4	3300-A12-1760 (25) 8.0	3300-B6-1760 (124) 10.2
18,000	O	3650-A6-1160 (110) 3.4	3300-A12-1160 (25) 5.8	3000-A6-1760 (105) 8.5	3300-A12-1760 (25) 9.0	3000-A12-1760 (22) 12.3	3300-A12-1760 (25) 13.8
	L	3000-A6-1760 (105) 5.7	3000-A6-1760 (105) 7.0	3000-A6-1760 (105) 8.5	3300-A6-1760 (108) 9.7	3000-A12-1760 (22) 12.3	3000-A12-1760 (22) 14.7
	E	3650-A6-1160 (110) 3.4	3650-A12-1160 (27) 5.0	3300-A12-1760 (25) 7.1	3650-B12-1160 (43) 8.6	3650-A12-1760 (28) 10.6	3300-A12-1760 (25) 13.8
22,000	O	3650-A6-1160 (110) 5.3	3650-A6-1760 (111) 7.1	3650-A12-1760 (28) 9.2	3650-A12-1760 (28) 12.0	3300-A12-1760 (25) 14.8	3650-B6-1760 (127) 16.2
	L	3300-A6-1760 (108) 6.9	3650-A6-1760 (111) 7.1	3300-A6-1760 (108) 10.5	3300-A6-1760 (108) 13.9	3300-A12-1760 (25) 14.8	3650-B6-1760 (127) 16.2
	E	3650-A6-1160 (110) 5.3	4025-B6-890 (128) 6.5	4025-B6-1160 (129) 8.4	4025-B6-1160 (129) 11.1	4025-B12-1160 (46) 12.6	3650-B6-1760 (127) 16.2
26,000	O	4450-B6-890 (131) 4.7	4450-B6-890 (131) 7.2	4025-B6-1160 (129) 10.7	3650-A12-1760 (28) 14.2	3300-A12-1760 (25) 19.5	3650-B6-1760 (127) 20.4
	L	4025-B6-1160 (129) 6.6	3650-A6-1760 (111) 9.9	3650-A6-1760 (111) 12.5	3650-A12-1760 (28) 14.2	3300-A12-1760 (25) 19.5	3300-A12-1760 (25) 22.9
	E	4900-B6-890 (134) 4.1	4900-B6-890 (134) 6.4	4450-B6-1160 (132) 9.3	4025-B12-1160 (46) 13.1	4025-B12-1160 (46) 16.2	3650-B6-1760 (127) 20.4

For duties not found in the QUICK SELECTION CHARTS, and for fan performance using an outlet cone, contact your Chicago Blower Representative. He has individual performance curves covering the complete VAV fan line. These curves are computer-printed direct from test data so they are precise. Seventeen fan diameters, three hub sizes, six and twelve bladed wheels, and adjustable pitch blades insure the best fan selection for your installation.



VAV Adjustable Pitch Fan Quick Selection Chart

FAN SIZE							
VOLUME (CFM)		4.0 Ps	5.0 Ps	6.0 Ps	8.0 Ps	10 Ps	12 Ps
4,000	O	1650-A6-3500 (86) 5.5	1650-A6-3500 (86) 6.3	1650-A12-3500 (3) 6.9	1650-A12-3500 (3) 8.6	Consult Factory	Consult Factory
	L	1650-A6-3500 (86) 5.5	1650-A6-3500 (86) 6.3	1650-A12-3500 (3) 6.9	1650-A12-3500 (3) 8.6		
	E	1650-A6-3500 (86) 5.5	1650-A6-3500 (86) 6.3	1650-A12-3500 (3) 6.9	1650-A12-3500 (3) 8.6		
5,000	O	1825-A6-3500 (89) 5.8	1825-A6-3500 (89) 7.0	1825-A6-3500 (89) 8.3	1825-A12-3500 (6) 9.8	Consult Factory	Consult Factory
	L	1825-A6-3500 (89) 5.8	1825-A6-3500 (89) 7.0	1825-A6-3500 (89) 8.3	1825-A12-3500 (6) 9.8		
	E	1825-A6-3500 (89) 5.8	1825-A6-3500 (89) 7.0	1825-A6-3500 (89) 8.3	1825-A12-3500 (6) 9.8		
6,000	O	1825-A6-3500 (89) 8.0	1825-A6-3500 (89) 9.0	2000-A6-3500 (92) 9.0	1825-A12-3500 (6) 12.1	Consult Factory	Consult Factory
	L	1825-A6-3500 (89) 8.0	1825-A6-3500 (89) 9.0	1825-A12-3500 (6) 10.0	1825-A12-3500 (6) 12.1		
	E	1825-A6-3500 (89) 8.0	1825-A6-3500 (89) 9.0	2000-A6-3500 (92) 9.0	1825-A12-3500 (6) 12.1		
8,000	O	2000-A6-3500 (92) 9.9	2000-A6-3500 (92) 11.2	2000-A6-3500 (92) 13.2	2000-A12-3500 (9) 16	Consult Factory	Consult Factory
	L	2000-A6-3500 (92) 9.9	2000-A6-3500 (92) 11.2	2000-A6-3500 (92) 13.2	1825-A12-3500 (6) 17.3		
	E	2000-A6-3500 (92) 9.9	2000-A6-3500 (92) 11.2	2225-A6-3500 (95) 11.0	2225-A12-3500 (12) 15.3		
10,000	O	2225-A6-3500 (95) 11.2	2225-A6-3500 (95) 12.8	2225-A6-3500 (95) 14.7	2225-A12-3500 (12) 19.1	2450-B6-3500 (114) 29.8	2450-B6-3500 (114) 33.6
	L	2000-A6-3500 (92) 14.8	2225-A6-3500 (95) 12.8	2225-A6-3500 (95) 14.7	2225-A12-3500 (12) 19.1	2450-B6-3500 (114) 29.8	2450-B6-3500 (114) 33.6
	E	2225-A6-3500 (95) 11.2	2225-A6-3500 (95) 12.8	2225-A6-3500 (95) 14.7	2225-A12-3500 (12) 19.1	2450-B6-3500 (114) 29.8	2450-B6-3500 (114) 33.6
14,000	O	2450-A6-3500 (98) 15.6	2450-A6-3500 (98) 17.8	2450-A6-3500 (98) 20.2	2700-B6-3500 (118) 34	2700-B6-3500 (118) 38	2700-B6-3500 (118) 43
	L	2450-A6-3500 (98) 15.6	2450-A6-3500 (98) 17.8	2450-A6-3500 (98) 20.2	2700-B6-3500 (118) 34	2700-B6-3500 (118) 38	2700-B6-3500 (118) 43
	E	2450-A6-3500 (98) 15.6	2450-A6-3500 (98) 17.8	2450-A6-3500 (98) 20.2	2700-B6-3500 (118) 34	2700-B6-3500 (118) 38	2700-B6-3500 (118) 43
18,000	O	3300-B12-1760 (41) 17.5	3000-B12-1760 (38) 23.2	2700-B12-3500 (35) 50.0	3650-C12-1760 (59) 40	2700-B6-3500 (118) 55	2700-B6-3500 (118) 62
	L	3000-B12-1760 (38) 20.1	3000-B12-1760 (38) 23.2	2700-B12-3500 (35) 50.0	2700-B6-3500 (118) 48	2700-B6-3500 (118) 55	2700-B6-3500 (118) 62
	E	3300-B12-1760 (41) 17.5	3300-B12-1760 (41) 21.3	2700-B12-3500 (35) 50.0	3650-C12-1760 (59) 40	2700-B6-3500 (118) 55	2700-B6-3500 (118) 62
22,000	O	3650-B6-1760 (127) 20.5	3300-B12-1760 (41) 27.0	4025-C6-1760 (145) 35.0	3650-C12-1760 (59) 50	3650-C12-1760 (59) 58	Consult Factory
	L	3650-B6-1760 (127) 20.5	3300-B12-1760 (41) 27.0	4025-C6-1760 (145) 35.0	3650-C12-1760 (59) 50	2700-B12-3500 (35) 73	
	E	3650-B6-1760 (127) 20.5	3650-B12-1760 (44) 25.5	4025-C6-1760 (145) 35.0	3650-C12-1760 (59) 50	3650-C12-1760 (59) 58	
26,000	O	3650-B6-1760 (127) 26.1	3650-B12-1760 (44) 30.0	4025-C6-1760 (145) 43.0	4025-C12-1760 (62) 56	3650-C12-1760 (59) 73	Consult Factory
	L	3650-B12-1760 (44) 25.0	3650-B12-1760 (44) 30.0	4025-C6-1760 (145) 43.0	4025-C12-1760 (62) 56	3650-C12-1760 (59) 73	
	E	4025-B6-1760 (130) 23.0	3650-B12-1760 (44) 30.0	4025-C6-1760 (145) 43.0	4025-C12-1760 (62) 56	3650-C12-1760 (59) 73	

CHICAGO BLOWER VAV ADJUSTABLE PITCH VANE AXIAL FANS are licensed to bear the AMCA Seal for both air and sound performance. Sound power levels (re 10⁻¹² watts), determined in conformance with AMCA Standard Test Code No. 300, are available for each blade setting of every VAV fan. Contact your Chicago Blower Representative for information and data concerning the sound level of VAV fans.



VAV Adjustable Pitch Fan Quick Selection Chart

		FAN SIZE					
VOLUME (CFM)		0.5 Ps	1.0 Ps	1.5 Ps	2.0 Ps	2.5 Ps	3.0 Ps
30,000	O	4450-B6-1160 (132) 7.1	4450-B6-1160 (132) 9.1	4450-B6-1160 (132) 12.0	4450-B12-1160 (49) 14.6	4025-B12-1160 (46) 19.8	4025-B6-1760 (130) 21.9
	L	4450-B6-1160 (132) 7.1	4450-B6-1160 (132) 9.1	4025-B6-1160 (129) 11.6	4450-B6-1160 (132) 15.5	4025-B12-1160 (46) 19.8	4025-B6-1760 (130) 21.9
	E	4900-B6-890 (135) 5.1	4900-B6-890 (134) 8.0	4900-B6-1160 (135) 10.8	4450-B12-1160 (49) 14.6	4450-B12-1160 (49) 18.4	4025-B6-1760 (130) 21.9
40,000	O	5425-B6-890 (137) 7.6	4900-B6-1160 (135) 13.2	4900-B6-1160 (135) 17.0	4900-B12-1160 (52) 19.8	4900-B12-1160 (52) 25.0	4450-B6-1760 (133) 30.3
	L	4900-B6-1160 (135) 10.3	4450-B6-1160 (132) 15.0	4450-B6-1160 (132) 18.7	4450-B6-1760 (133) 23.9	4450-B6-1760 (133) 27.2	4025-B6-1760 (130) 36.0
	E	5425-B6-890 (137) 7.6	5425-B6-890 (137) 11.2	5425-B6-890 (137) 15.1	4900-B12-1160 (52) 19.8	4900-B12-1160 (52) 25.0	4450-B6-1760 (133) 30.3
50,000	O	5425-B6-1160 (138) 12.9	5425-B6-1160 (138) 16.6	5425-B6-1160 (138) 21.6	5425-B12-1160 (55) 25.2	5425-B12-1160 (55) 31.5	5425-B12-1160 (55) 38.0
	L	5425-B6-1160 (138) 12.9	4900-B6-1160 (135) 19.9	4900-B6-1160 (135) 24.9	4900-B12-1160 (52) 28.0	5425-B12-1160 (55) 31.5	5425-B12-1160 (55) 38.0
	E	5425-B6-890 (137) 11.8	5425-B12-890 (54) 15.8	5425-B12-890 (54) 21.0	6000-C6-890 (156) 23.4	5425-C12-890 (69) 31.0	5425-C6-1160 (153) 36.0
60,000	O	5425-B6-1160 (138) 19.0	5425-B6-1160 (138) 23.4	5425-B6-1160 (138) 29.1	5425-B12-1160 (55) 34.2	5425-B12-1160 (55) 41.4	5425-C12-1160 (70) 49.3
	L	5425-B6-1160 (138) 19.0	5425-B6-1160 (138) 23.4	5425-B6-1160 (138) 29.1	5425-B12-1160 (55) 34.2	5425-B12-1160 (55) 41.4	5425-C12-1160 (70) 49.3
	E	5425-B12-890 (54) 17.8	5425-B12-890 (54) 22.2	5425-B12-1160 (55) 27.7	6650-C6-890 (159) 28.0	6000-C12-890 (73) 36.0	6000-C12-890 (73) 42.6
70,000	O	6650-C6-890 (158) 16.0	6000-C6-890 (156) 28.3	6650-C6-890 (159) 28.1	6650-C6-890 (159) 34.4	6650-C6-890 (159) 43.0	6000-C6-1160 (157) 52.5
	L	6650-C6-890 (158) 16.0	6000-C6-890 (156) 28.3	6650-C6-890 (159) 28.1	6650-C6-890 (159) 34.4	6000-C6-1160 (157) 47.8	6000-C6-1160 (157) 52.5
	E	6650-C6-890 (158) 16.0	6650-C6-890 (158) 21.5	6650-C6-890 (159) 28.1	6650-C6-890 (159) 34.4	6650-C12-890 (76) 41.5	6650-C12-890 (76) 49.0
80,000	O	6650-C6-890 (158) 21.4	6650-C6-890 (159) 29.0	6650-C6-890 (159) 36.0	6000-C6-1160 (157) 51.8	7300-C6-890 (162) 47.5	6650-C6-1160 (160) 58.1
	L	6000-C6-890 (156) 31.9	6650-C6-890 (159) 29.0	6650-C6-890 (159) 36.0	6000-C6-1160 (157) 51.8	6000-C6-1160 (157) 58.0	6650-C6-1160 (160) 58.1
	E	6650-C6-890 (158) 21.4	7300-C6-890 (161) 24.0	7300-C6-890 (162) 32.5	7300-C6-890 (162) 38.4	7300-C6-890 (162) 47.5	7300-C12-890 (79) 54.5
90,000	O	7300-C6-890 (161) 22.1	7300-C6-890 (161) 29.2	7300-C6-890 (162) 38.0	7300-C6-890 (162) 46.0	6650-C6-1160 (160) 61.0	6650-C6-1160 (160) 68
	L	6650-C6-890 (159) 30.3	7300-C6-890 (162) 31.2	7300-C6-890 (162) 38.0	7300-C6-890 (162) 46.0	6650-C6-1160 (160) 61.0	6650-C6-1160 (160) 68
	E	7300-C6-890 (161) 22.1	8112-C6-890 (164) 25.4	8112-C6-890 (165) 35.3	7300-C6-890 (162) 46.0	7300-C6-890 (162) 57.5	7300-C12-890 (79) 63.2
100,000	O	7300-C6-890 (161) 27.3	7300-C6-890 (162) 37.5	7300-C6-890 (162) 45.0	7300-C6-890 (162) 55.0	6650-C6-1160 (160) 73.0	7300-C6-1160 (162) 74.0
	L	7300-C6-890 (162) 30.7	7300-C6-890 (162) 37.5	7300-C6-890 (162) 45.0	6650-C6-1160 (160) 64.8	6650-C6-1160 (160) 73.0	7300-C6-1160 (162) 74.0
	E	7300-C6-890 (161) 27.3	8112-C6-890 (164) 31.0	8112-C6-890 (165) 41.0	8112-C6-890 (165) 49.5	7300-C12-890 (79) 60.2	7300-C12-890 (79) 73.0
120,000	O	8112-C6-890 (165) 35.9	7300-C6-890 (162) 54.0	8112-C6-890 (165) 54.5	8112-C6-890 (165) 66	8112-C12-890 (82) 74.2	8112-C6-1160 (166) 90.0
	L	8112-C6-890 (165) 35.9	7300-C6-890 (162) 54.0	8112-C6-890 (165) 54.5	7300-C6-1160 (163) 77	7300-C6-1160 (163) 87.0	7300-C6-1160 (163) 98.0
	E	8112-C6-890 (165) 35.9	8112-C6-890 (164) 42.0	8112-C6-890 (165) 54.5	8112-C12-890 (82) 64	8112-C12-890 (82) 74.2	8112-C12-890 (82) 87.8

It is many times advantageous to install multiple fans, operating in parallel, for large volume systems. Multiple fan installations can improve equipment layout, reduce dependence on large horsepower motors, and increase system operating reliability. Multiple fan installations require special considerations and care in selection of equipment. Consult your Chicago Blower Representative for help with parallel fan installations.



VAV Adjustable Pitch Fan Quick Selection Chart

FAN SIZE							
VOLUME (CFM)		4.0 Ps	5.0 Ps	6.0 Ps	8.0 Ps	10 Ps	12 Ps
30,000	O	4025-B6-1760 (130) 27.8	3650-B12-1760 (44) 36	3650-B12-1760 (44) 44	4025-C12-1760 (62) 62	4025-C12-1760 (62) 68	Consult Factory
	L	4025-B6-1760 (130) 27.8	3650-B12-1760 (44) 36	3650-B12-1760 (44) 44	4025-C12-1760 (62) 62	4025-C12-1760 (62) 68	
	E	4025-B6-1760 (130) 27.8	3650-B12-1760 (44) 36	3650-B12-1760 (44) 44	4025-C12-1760 (62) 62	4025-C12-1760 (62) 68	
40,000	O	4450-B6-1760 (133) 38.5	4450-B12-1760 (50) 48	3650-B12-1760 (44) 67	4450-C12-1760 (65) 85	4025-C12-1760 (62) 102	4025-C12-1760 (62) 116
	L	4450-B6-1760 (133) 38.5	4450-B12-1760 (50) 48	3650-B12-1760 (44) 67	4450-C12-1760 (65) 85	4025-C12-1760 (62) 102	4025-C12-1760 (62) 116
	E	4450-B6-1760 (133) 38.5	4450-B12-1760 (50) 48	3650-B12-1760 (44) 67	4450-C12-1760 (65) 85	4025-C12-1760 (62) 102	4025-C12-1760 (62) 116
50,000	O	4900-B6-1760 (136) 48.4	4025-B12-1760 (47) 72	4025-B12-1760 (47) 82	4900-LB12-1760 (53A) 95	4450-C12-1760 (65) 125	4450-C12-1760 (65) 150
	L	4900-B6-1760 (136) 48.4	4025-B12-1760 (47) 72	4025-B12-1760 (47) 82	4900-LB12-1760 (53A) 95	4450-C12-1760 (65) 125	4450-C12-1760 (65) 150
	E	4900-B6-1760 (136) 48.4	4900-B12-1760 (53) 57	4450-B12-1760 (50) 75	4900-LB12-1760 (53A) 95	4450-C12-1760 (65) 125	4450-C12-1760 (65) 150
60,000	O	6000-C6-1160 (157) 54.0	4900-LB12-1760 (53A) 74	4900-LB12-1760 (53A) 86	4900-LB12-1760 (53A) 120	4900-C12-1760 (68) 140	4450-C12-1760 (65) 185
	L	6000-C6-1160 (157) 54.0	4900-LB12-1760 (53A) 74	4900-LB12-1760 (53A) 86	4900-LB12-1760 (53A) 120	4900-C12-1760 (68) 140	4450-C12-1760 (65) 185
	E	6000-C6-1160 (157) 54.0	4900-LB12-1760 (53A) 74	4900-LB12-1760 (53A) 86	4900-C12-1760 (68) 115	4900-C12-1760 (68) 140	4450-C12-1760 (65) 185
70,000	O	6000-C6-1160 (157) 67.0	4900-LB12-1760 (53A) 97	5425-LB12-1760 (56A) 100	4900-LB12-1760 (53A) 146	4900-C12-1760 (68) 175	4900-C12-1760 (68) 210
	L	6000-C6-1160 (157) 67.0	4900-LB12-1760 (53A) 97	4900-LB12-1760 (53A) 113	4900-LB12-1760 (53A) 146	4900-C12-1760 (68) 175	4900-C12-1760 (68) 210
	E	6000-C6-1160 (157) 67.0	5425-LB12-1760 (56A) 85	5425-LB12-1760 (56A) 100	4900-C12-1760 (68) 145	4900-C12-1760 (68) 175	4900-C12-1760 (68) 210
80,000	O	6650-C6-1160 (160) 73.5	5425-LB12-1760 (56A) 104	5425-LB12-1760 (56A) 113	5425-C6-1760 (154) 155	5425-C12-1760 (71) 180	5425-C12-1760 (71) 220
	L	6650-C6-1160 (160) 73.5	5425-LB12-1760 (56A) 104	5425-LB12-1760 (56A) 113	5425-LB12-1760 (56A) 175	5425-C12-1760 (71) 180	5425-C12-1760 (71) 220
	E	6650-C6-1160 (160) 73.5	5425-LB12-1760 (56A) 104	5425-LB12-1760 (56A) 113	5425-C6-1760 (154) 155	5425-C12-1760 (71) 180	5425-C12-1760 (71) 220
90,000	O	6650-C6-1160 (160) 87.7	5425-LB12-1760 (56A) 125	5425-LB12-1760 (56A) 145	5425-C12-1760 (71) 190	5425-C12-1760 (71) 212	Consult Factory
	L	6650-C6-1160 (160) 87.7	5425-LB12-1760 (56A) 125	5425-LB12-1760 (56A) 145	5425-C12-1760 (71) 190	5425-C12-1760 (71) 212	
	E	7300-C6-1160 (163) 83.0	5425-LB12-1760 (56A) 125	6000-C12-1160 (74) 135	5425-C12-1760 (71) 190	5425-C12-1760 (71) 212	
100,000	O	7300-C6-1160 (163) 92.3	5425-LB12-1760 (56A) 146	5425-LB12-1760 (56A) 175	5425-C12-1760 (71) 210	5425-C12-1760 (71) 250	Consult Factory
	L	6650-C6-1160 (160) 100	5425-LB12-1760 (56A) 146	5425-LB12-1760 (56A) 175	5425-C12-1760 (71) 210	5425-C12-1760 (71) 250	
	E	7300-C6-1160 (163) 92.3	6000-C12-1160 (74) 135	6000-C12-1160 (74) 155	5425-C12-1760 (71) 210	5425-C12-1760 (71) 250	
120,000	O	8112-C6-1160 (166) 112	6650-C12-1160 (77) 160	6000-C12-1160 (74) 215	Consult Factory	Consult Factory	Consult Factory
	L	7300-C6-1160 (163) 120	6650-C12-1160 (77) 160	6000-C12-1160 (74) 215			
	E	8112-C6-1160 (166) 112	6650-C12-1160 (77) 160	6650-C12-1160 (77) 190			

When system pressure requirements exceed the pressure capability of a single fan, multiple fans may be installed in series to produce the required pressure. Vaneaxial fans are ideally suited for this application because of the "straight-through" flow and the ease of coupling fans. Multiple fans installed in series require special considerations in selection of equipment. Consult your Chicago Blower Representative for help with your series fan installation.



VAV Adjustable Pitch Fan Quick Selection Chart

FAN SIZE							
VOLUME (CFM)		0.50 Ps	1.0 Ps	1.5 Ps	2.0 Ps	2.50 Ps	3.0 Ps
140,000	O	8112-C6-690 (164) 41	8112-C6-890 (165) 60	8112-C6-890 (165) 70	8112-C6-890 (165) 85	8112-C6-1160 (166) 95	8112-C6-1160 (166) 104
	L	7300-C6-890 (162) 65	8112-C6-1160 (166) 60	8112-C6-1160 (166) 80	7300-C12-890 (79) 90	8112-C6-1160 (166) 95	8112-C6-1160 (166) 104
	E	8112-C6-690 (164) 41	8112-C12-690 (81) 55	8112-C6-890 (165) 70	7300-C12-890 (79) 90	8112-C6-1160 (166) 95	8112-C6-1160 (166) 104
160,000	O	8112-C6-890 (165) 65	8112-C6-1160 (166) 80	8112-C6-1160 (166) 90	8112-C6-1160 (166) 110	8112-C6-1160 (166) 130	8112-C6-1160 (166) 140
	L	8112-C6-1160 (166) 75	8112-C6-1160 (166) 80	8112-C6-1160 (166) 90	7300-C12-1160 (80) 125	8112-C6-1160 (166) 130	8112-C6-1160 (166) 140
	E	8112-C12-690 (81) 60	8112-C12-690 (81) 77	8112-C6-1160 (166) 90	7300-C12-1160 (80) 125	8112-C6-1160 (166) 130	8112-C6-1160 (166) 140
180,000	O	8112-C6-1160 (166) 96	8112-C6-890 (165) 100	8112-C6-1160 (166) 115	8112-C6-1160 (166) 135	8112-C6-1160 (166) 155	8112-C6-1160 (166) 165
	L	8112-C6-1160 (166) 96	7300-C6-1160 (163) 130	8112-C6-1160 (166) 115	8112-C6-1160 (166) 135	8112-C6-1160 (166) 155	8112-C6-1160 (166) 165
	E	8112-C6-890 (165) 90	8112-C12-690 (81) 95	8112-C6-1160 (166) 115	8112-C6-1160 (166) 135	8112-C12-890 (82) 150	8112-C6-1160 (166) 165
200,000	O	8112-C6-890 (165) 115	8112-C6-890 (165) 135	8112-C12-890 (82) 150	8112-C6-1160 (166) 170	8112-C12-890 (82) 175	8112-C6-1160 (166) 195
	L	8112-C6-1160 (166) 125	8112-C6-890 (165) 135	8112-C12-890 (82) 150	8112-C6-1160 (166) 170	8112-C12-1160 (83) 180	8112-C6-1160 (166) 195
	E	8112-C6-890 (165) 115	8112-C12-890 (82) 130	8112-C12-890 (82) 150	8112-C12-890 (82) 165	8112-C12-1160 (83) 180	8112-C12-1160 (83) 185
225,000	O	8112-C6-1160 (166) 150	8112-C6-1160 (166) 190	8112-C12-890 (82) 185	Consult Factory	Consult Factory	Consult Factory
	L	8112-C6-1160 (166) 150	8112-C6-1160 (166) 190	8112-C12-890 (82) 185			
	E	8112-C6-1160 (166) 150	8112-C12-890 (82) 185	8112-C12-890 (82) 185			
250,000	O	8112-C12-890 (82) 190	8112-C12-1160 (83) 215	8112-C12-890 (82) 240	Consult Factory	Consult Factory	Consult Factory
	L	8112-C6-1160 (166) 200	8112-C6-1160 (166) 230	8112-C12-890 (82) 240			
	E	8112-C12-890 (82) 190	8112-C12-1160 (83) 215	8112-C12-890 (82) 240			
275,000	O	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory
	L						
	E						
300,000	O	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory
	L						
	E						
350,000	O	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory
	L						
	E						

For duties not found in the QUICK SELECTION CHARTS, and for fan performance using an outlet cone, contact your Chicago Blower Representative. He has individual performance curves covering the complete VAV fan line. These curves are computer-printed direct from test data so they are precise. Seventeen fan diameters, three hub sizes, six and twelve bladed wheels, and adjustable pitch blades insure the best fan selection for your installation.

ORDERING INFORMATION

The following information is required when ordering a Chicago Blower VAV Adjustable Pitch Vane Axial Fan. This information must be complete to assure proper performance.

1. Fan Size and Model No.
2. Fan RPM
3. Fan Duty Requirements: CFM, Total or Static Pressure, Gas Density, Gas Composition if not clean air, Maximum Temperature, Normal Operating Temperature.
4. Where operating density is other than $.075\#/ft.^3$, state:
 - a. At what density required pressure value is measured
 - b. At what other density, if any, fan will be expected to operate
5. Blade Pitch Setting for operating duty
6. Motor Characteristics: HP, RPM, Volts, Phase, Hertz, Enclosure if other than TEAO required.
7. Accessories required

TYPICAL ENGINEERING SPECIFICATION

As shown on specification plans, furnish and install Vaneaxial fans, Arrangement #4 (Direct Drive) as manufactured by Chicago Blower Corporation, Adjustable Pitch, Type VAV, Design 47. Fan casings are to be precisely formed with integral rolled steel flanges (inlet and outlet). Fans shall be licensed to bear the AMCA Certified Rating Seal for air performance and Sound Power Level. Fan casing to be complete with guide vane section, inner fairing and motor bulkhead, machined to receive a Nema "C" face flange mounted TEAO electric motor located downstream from the fan rotor.

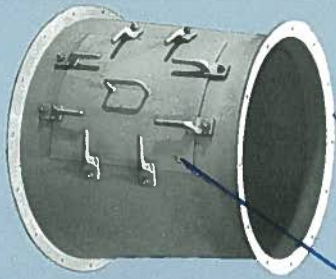
Rotor to consist of a one-piece cast aluminum hub machined to accept a split-taper lock Q.D. bushing. Fan blades are to be adjustable pitch cast aluminum with Airfoil sections. Blade and shank is to be cast integral to insure highest maximum blade integrity. Blade adjustment is to be made externally at the hub without removal of the nose spinning. The motor and fan wheel are to be dynamically balanced together to precise tolerance.

ACCESSORIES & SPECIAL FEATURES



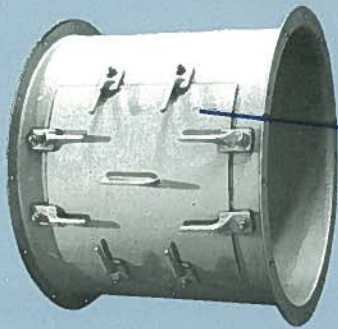
STREAMLINED INLET BELL

Used to reduce entry loss where fan inlet is open (no inlet duct). Must be used on open inlet to obtain catalog performance ratings. Heavy gauge spinning bolts to inlet flange. Will not support fan in either vertical or horizontal position.



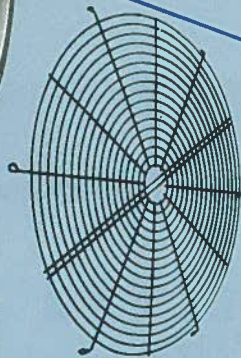
OUTLET OR INLET CONE

A Vaneaxial fan may be selected having a diameter about 20% smaller than the duct. Cone connects fan inlet and outlet to larger duct. Cone also may be used on open fan inlet to avoid large velocity pressure loss. Taper of 6° assures minimum loss. Cone is flanged with punched holes for bolting to fan and duct. Cone will support fan in any position except cantilever.



ACCESS DOORS

Doors in cone or spool piece allow access for blade adjustment, cleaning or inspection. Doors are gasketed for air-tight seal and are fastened with quick-release latches.



SPOOL PIECE

Non-tapered housing extension with door used for access to blades where door cannot be provided in duct.

INLET SCREEN

Constructed of heavy gauge wire welded to radial supports. Fits fan flange, inlet or outlet cone, or inlet bell. Meets OSHA requirements.



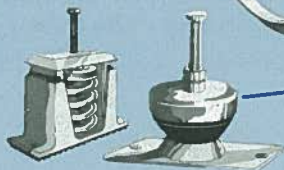
MOUNTING FEET

Heavy steel plate, reinforced for rigidity and welded to fan housing. Suitable for floor or ceiling mounting.



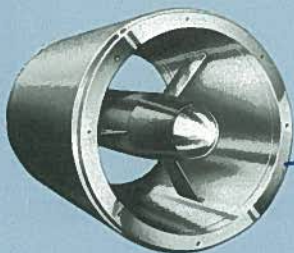
COMPANION ANGLE RINGS

For flexible connections or slip-fit duct connections.



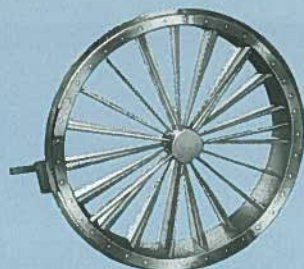
VIBRATION ISOLATORS

Elastomer-in-Shear (or rubber or neoprene) or spring type mounts may be selected for use in any fan mounting position.



SOUND ATTENUATOR

Used to reduce fan noise in sensitive applications requiring very low noise level. Bolts to fan inlet or discharge or elsewhere in duct line.

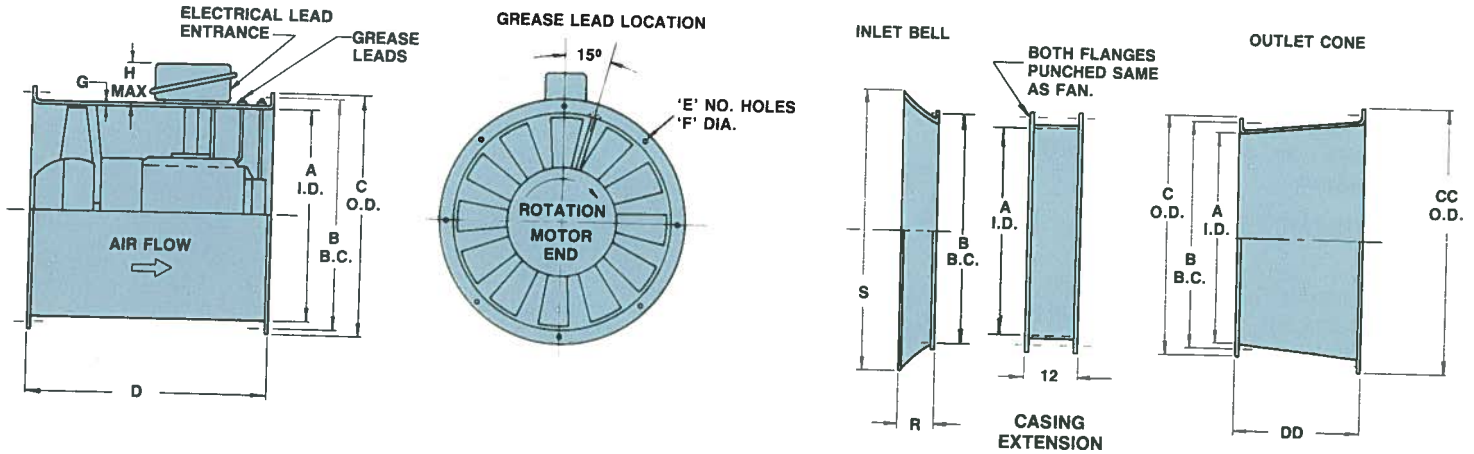


VARIABLE INLET VANES

Used to vary volume flow when frequent changes are required. Assembly bolts to fan flange.



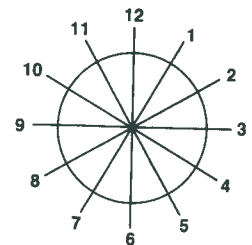
VAV ADJUSTABLE PITCH VANE AXIAL FAN ARRANGEMENT 4



HUB DIA	FAN SIZE	DIMENSION - INCHES											WEIGHT BARE FAN LESS MOTOR
		A	B	C	D	E	F	G	R	S	CC	DD	
"A" MAX. MOTOR FRAME 256	1650	16½	18¼	19½	29	8	7/16	10	39/16	217/16	23¼	161/16	145
	1825	18¼	20	21¼	↑	8	↑	10	311/16	235/8	25½	191/8	157
	2000	20	22	23½		12		7	4	261/8	28	217/16	195
	2225	22¼	245/16	25¾		12		↑	47/16	285/8	30½	225/8	212
	2450	24½	269/16	28		12			47/8	313/8	33½	263/16	228
	2700	27	295/16	31		12			57/16	341/16	37	283/16	248
	3000	30	325/16	34		16			6	385/16	40½	305/16	269
	3300	33	355/16	37		16			65/8	413/16	44¼	341/2	293
3650	36½	39	41	29	16			75/16	465/16	49	381/16	324	
"B" MAX. MOTOR FRAME 365	2450	24½	269/16	28	38	12			47/8	313/8	33½	263/16	383
	2700	27	295/16	31	↑	12			57/16	341/16	37	283/16	415
	3000	30	325/16	34		16			6	385/16	40½	305/16	452
	3300	33	355/16	37		16			65/8	413/16	44¼	341/2	488
	3650	36½	39	41		16	7/16	7	75/16	465/16	49	381/16	524
	4025	40¼	427/8	44¾		24	9/16	¼	8	51¼	53½	415/8	663
	4450	44½	471/8	49		24	↑	↑	815/16	57¾	58¾	463/8	713
	4900	49	517/8	54		24			913/16	631/16	65	525/16	772
5425	54¼	575/8	59¼	38	24			107/8	707/8	71½	58¼	835	
"LB" MAX. MOTOR FRAME 445	4025	40¼	427/8	443/8	50	24			8	51¼	53½	415/8	773
	4450	44½	471/8	49	↑	24			815/16	57¾	58¾	463/8	834
	4900	49	517/8	54	↓	24			913/16	631/16	65	525/16	905
	5425	54¼	571/8	59¼	50	24	9/16		107/8	707/8	71½	58¼	983
"C" MAX. MOTOR FRAME 449	3650	36½	39	41	51	16	7/16		79/32	465/16	49	381/16	1040
	4025	40¼	427/8	44¾	↑	24	9/16		8	51¼	53½	415/8	1096
	4450	44½	471/8	49		24	↑		815/16	57¾	58¾	463/8	1165
	4900	49	517/8	54		24			913/16	631/16	65	525/16	1242
	5425	54¼	571/8	59¼		24			107/8	707/8	71½	58¼	1307
	6000	60	633/8	65½		32			12	767/8	78½	6113/16	1423
	6650	66½	695/8	72		32			135/16	85	865/8	699/16	1533
	7300	73	763/8	79		32			145/8	93¾	96	807/8	1665
8112	81½	841/8	87½	51	32	9/16	¼	16¼	104	106	8913/16	1835	

TEAO MOTORS		
FRAME	WEIGHT	H°
143	65	413/16
145	65	413/16
182	95	411/16
184	95	411/16
213	170	411/16
215	170	411/16
254	270	53/8
256	270	53/8
284	330	53/8
286	420	53/8
324	520	813/16
326	575	813/16
364	750	813/16
365	875	813/16
404	1070	813/16
405	1185	813/16
444	1575	11¼
445	1875	11¼

* Estimate Only. Varies with Motor Manufacturer.



Conduit Box, Location (o'clock) Drive Side View

DO NOT USE FOR GENERAL CONSTRUCTION UNLESS CERTIFIED BY CHICAGO BLOWER CORP.

Your Primary Source for Every Fan Requirement

FOR GENERAL DUTY

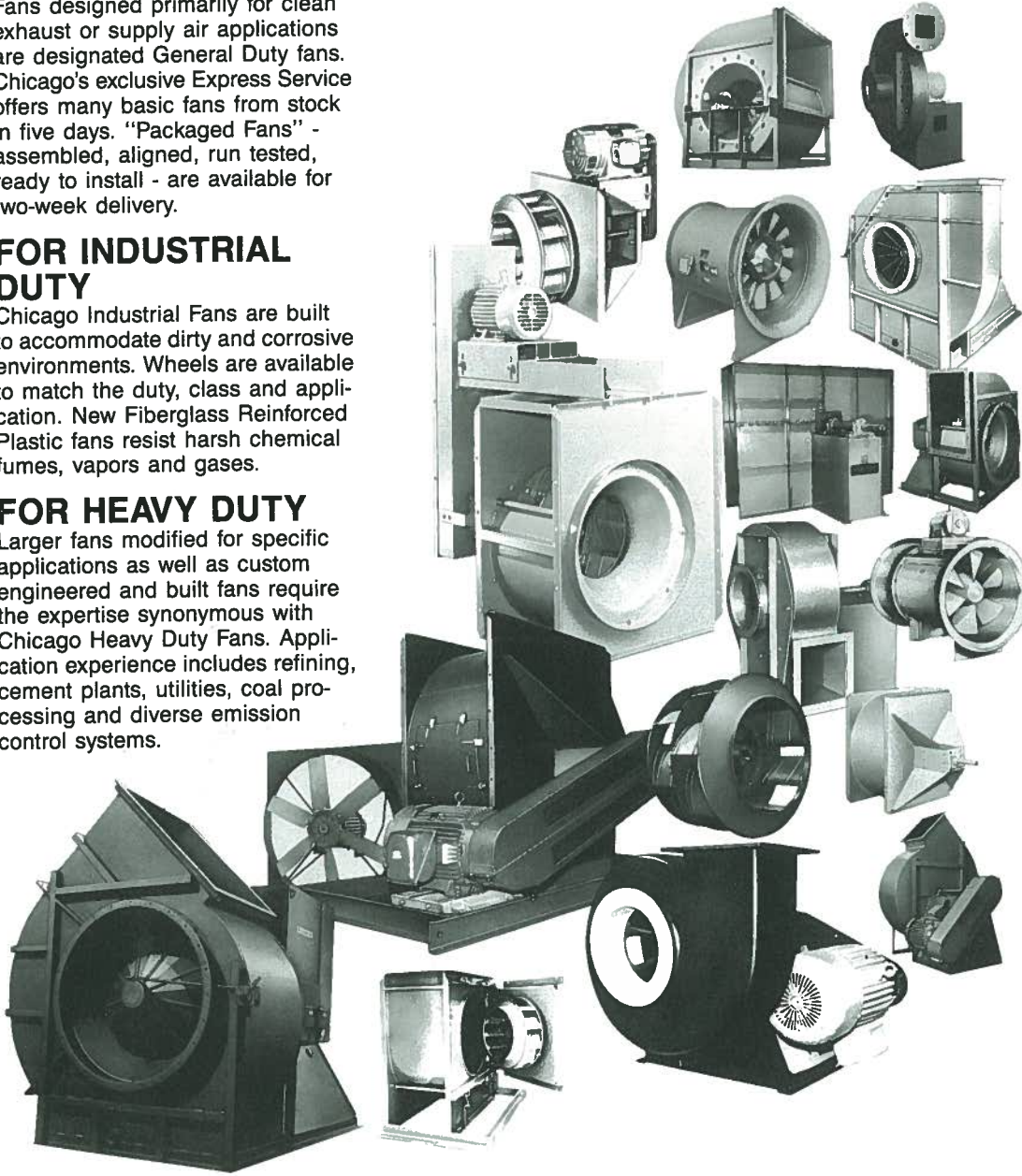
Fans designed primarily for clean exhaust or supply air applications are designated General Duty fans. Chicago's exclusive Express Service offers many basic fans from stock in five days. "Packaged Fans" - assembled, aligned, run tested, ready to install - are available for two-week delivery.

FOR INDUSTRIAL DUTY

Chicago Industrial Fans are built to accommodate dirty and corrosive environments. Wheels are available to match the duty, class and application. New Fiberglass Reinforced Plastic fans resist harsh chemical fumes, vapors and gases.

FOR HEAVY DUTY

Larger fans modified for specific applications as well as custom engineered and built fans require the expertise synonymous with Chicago Heavy Duty Fans. Application experience includes refining, cement plants, utilities, coal processing and diverse emission control systems.



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