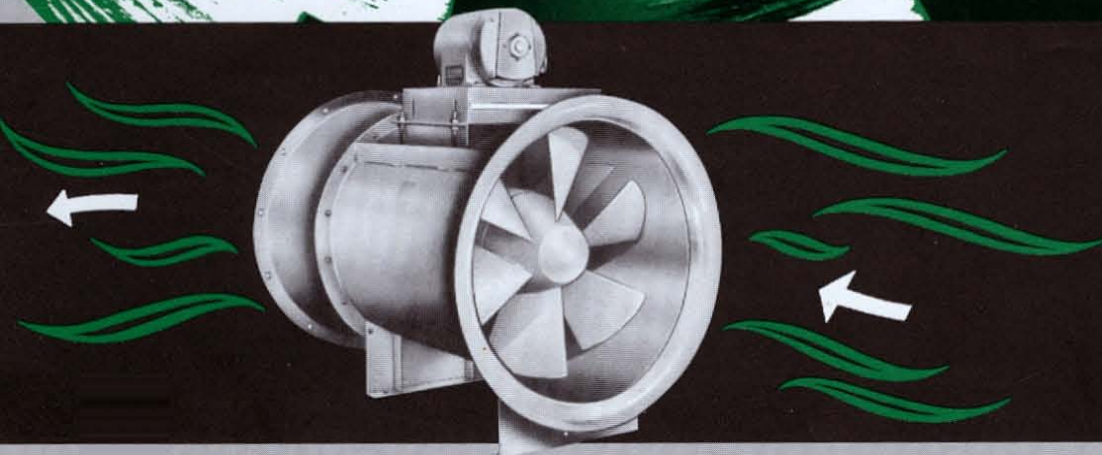




CHICAGO

DESIGN 34



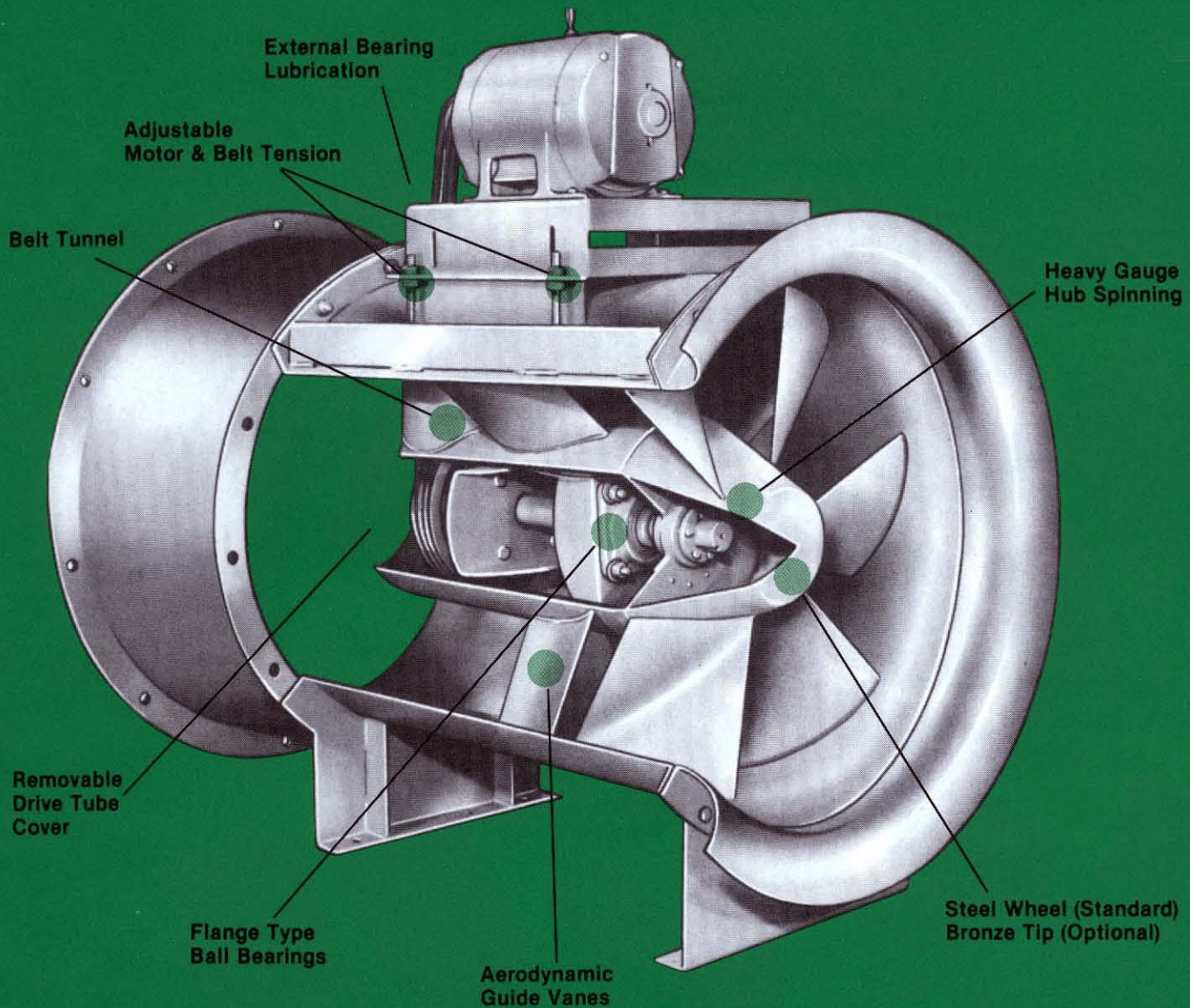
**VANE
AXIAL
FANS**

CHICAGO BLOWER CORPORATION

1675 Glen Ellyn Road • Glendale Heights, Illinois 60139

an ISO 9001 Company

RUGGED CONSTRUCTION



PERFORMANCE CHARACTERISTICS

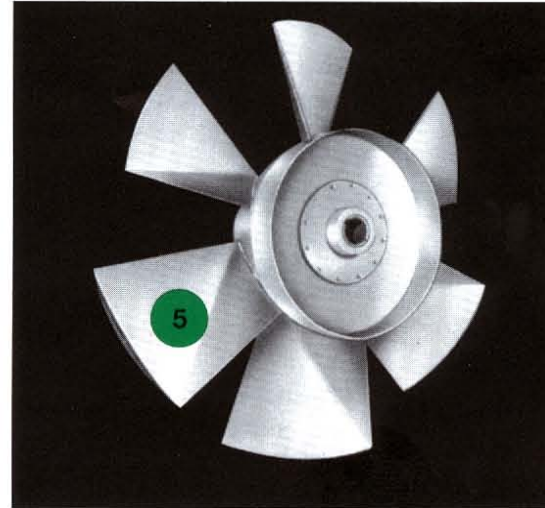
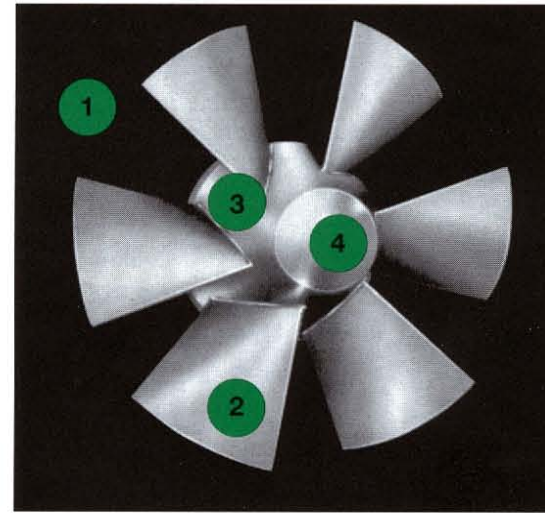
- 1 Pressures to 5 inches SP...**
static pressure from 1/2 to 5 inches in volumes ranging up to over 108,000 CFM and temperatures to 160°F.
- 2 Two classes of construction...**
Class I 12,500 Tip Speed...Class II 15,500 Tip Speed.
- 3 Wide range of sizes...**
15 to 54-1/4 inch diameter Fan wheels with horse-power requirements of from 1/4 to 150 HP.
- 4 20% to 40% quieter...**
this new concept in axial wheel design runs 1/3 slower than the same size conventional vane axial fan to produce the same pressure and volume.
- 5 Two models...**
for V-Belt Drive units each with a different pitch wheel for maximum efficiency over its particular performance range.
- 6 Steep pressure curve...**
the normal selection range is extended to larger volumes without loss of pressure reserve.

Chicago Blower also has a complete line of adjustable pitch vane axials. Available in arrangements 4 and 9. Request Bulletin VAV.

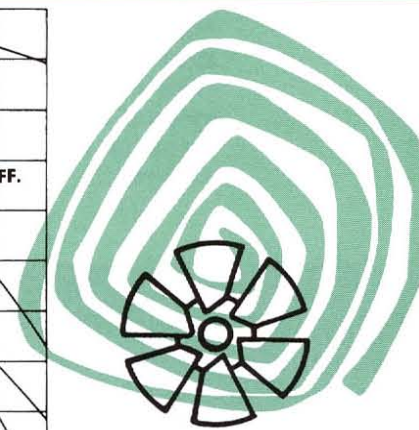
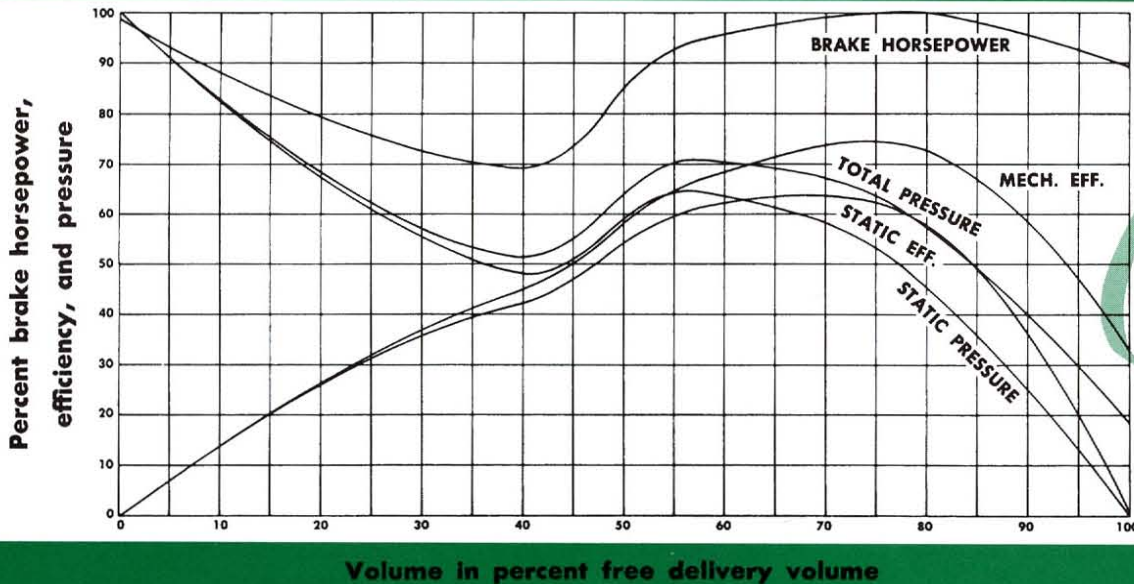
and Quiet Operation

SLOW SPEED

- 1 Wheels...**are furnished standard of welded steel construction with spun steel hub and die formed airfoil blades. They are furnished in Class I for 12,500 Tip Speed in Class II for 15,500 Tip Speed and a maximum temperature of 160°F. Bronze tipped wheels for spark resistance are also available in the complete range of sizes.
- 2 Blades...**are heavy formed airfoil sections wider at the tip than at the root and of such a design as to create a completely new concept in axial-flow wheels. Running approximately 1/3 slower than the same size conventional design vane axial fan it produces the same pressure and volume. This 1/3 slower speed characteristic makes this fan the quietest vane axial unit on the market. If first cost is the main consideration then a size smaller fan can be selected to run at the same speed as the conventional vane axial.
- 3 Wheel cone...**is a heavy gauge spinning, conical in shape which adds to the fan's efficiency, low noise characteristic and strength.
- 4 Streamlined cap...**protects internal wheel mounting parts and helps guide air to the blades in an efficient flow pattern.
- 5 Catalogued** in two different pitches (or two different models per fan size) provide pressures to 5 inches SP...wheel diameters 15 to 54 inches and volumes to 108,000 CFM. Other special blade pitches can be provided to meet any job requirement.



PERFORMANCE CHARACTERISTICS



ARRANGEMENT

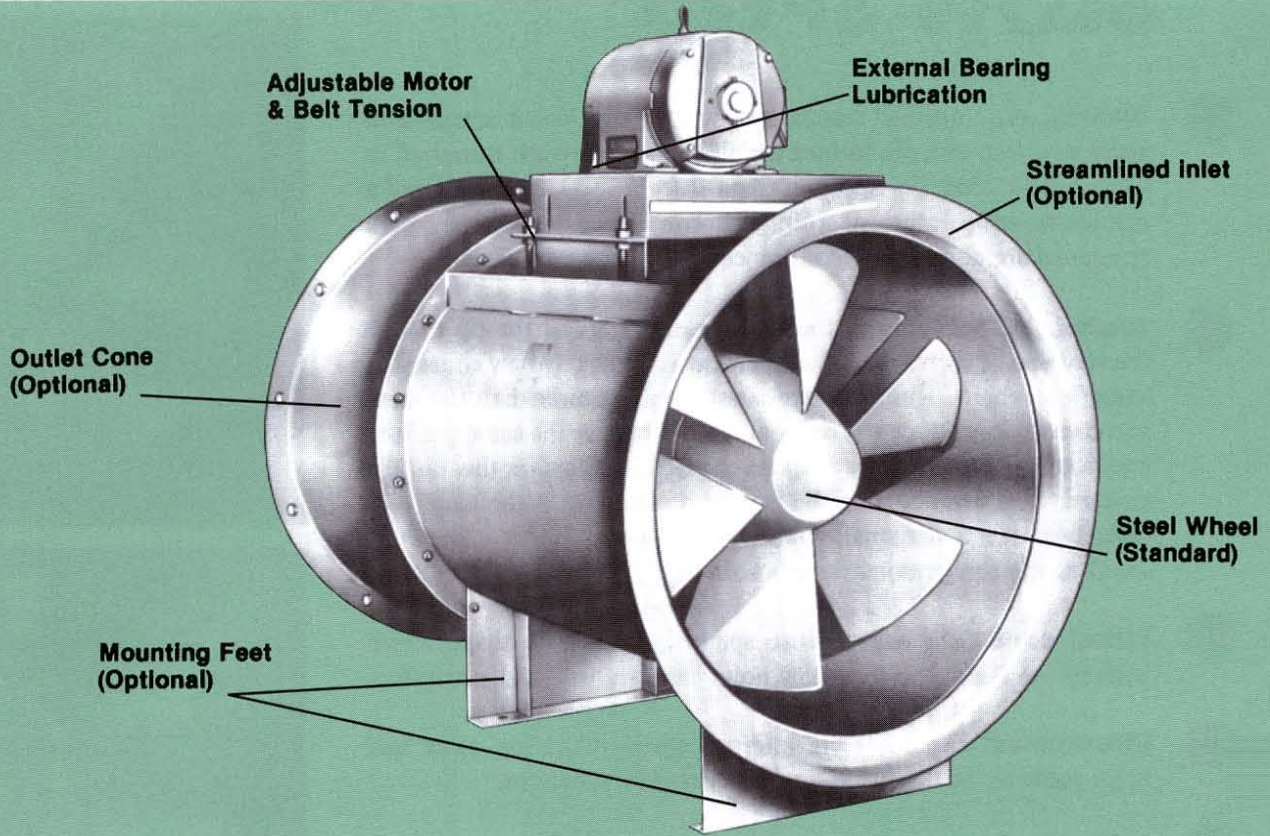
9

VANE AXIAL
V-BELT DRIVE

APPLICATIONS

- Acid Fumes
- Explosive Vapors

STANDARD



The V-Belt driven Arrangement 9 fan provides the convenience and flexibility of a full range of speeds from externally mounted motors.

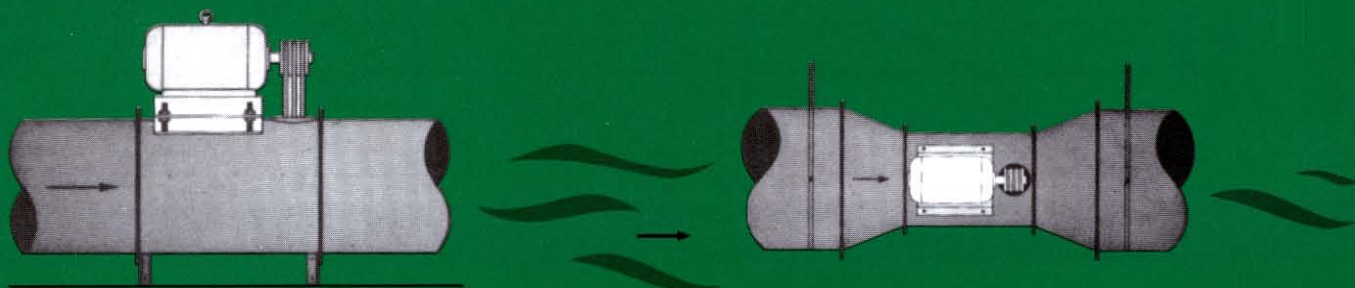
The motor, drives and bearings are protected from the air stream and will permit the handling of lightly contaminated air at temperatures up to 200° with a steel wheel and with an aluminum wheel up to 150°F.

Maintenance is simple because belt tension adjustment and bearing lubrication can be done externally. With grease lubricated ball bearings the fans can be operated either horizontally or vertically. Ball bearing motors must be used when fan is used for vertical air flow.

The V-Belt drive is protected from the air stream by a twin belt tunnel with removable section which offers maximum efficiency with minimum air resistance.

For maximum efficiency an outlet cone should be used, also an inlet cone for matching duct work. When there is no duct connection to the fan inlet then a streamlined inlet should be used.

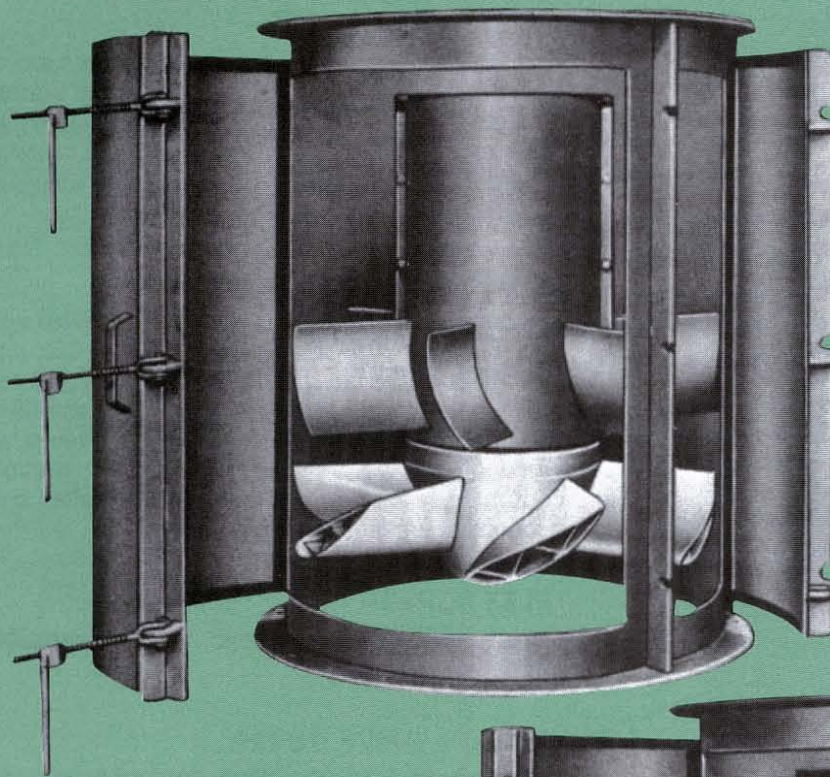
The flexibility of Arrangement 9 permits the fans to be mounted either vertically or horizontally as part of the duct work which makes it practical for all industrial uses.



ARRANGEMENT

9

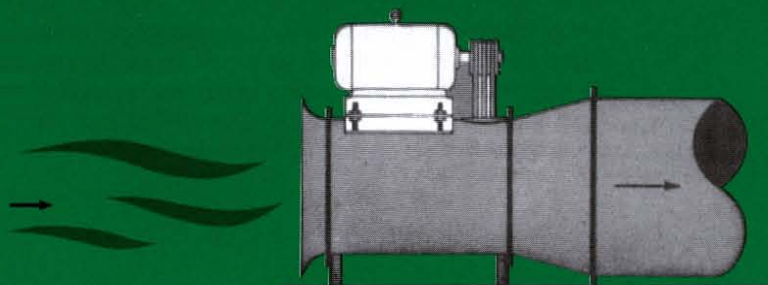
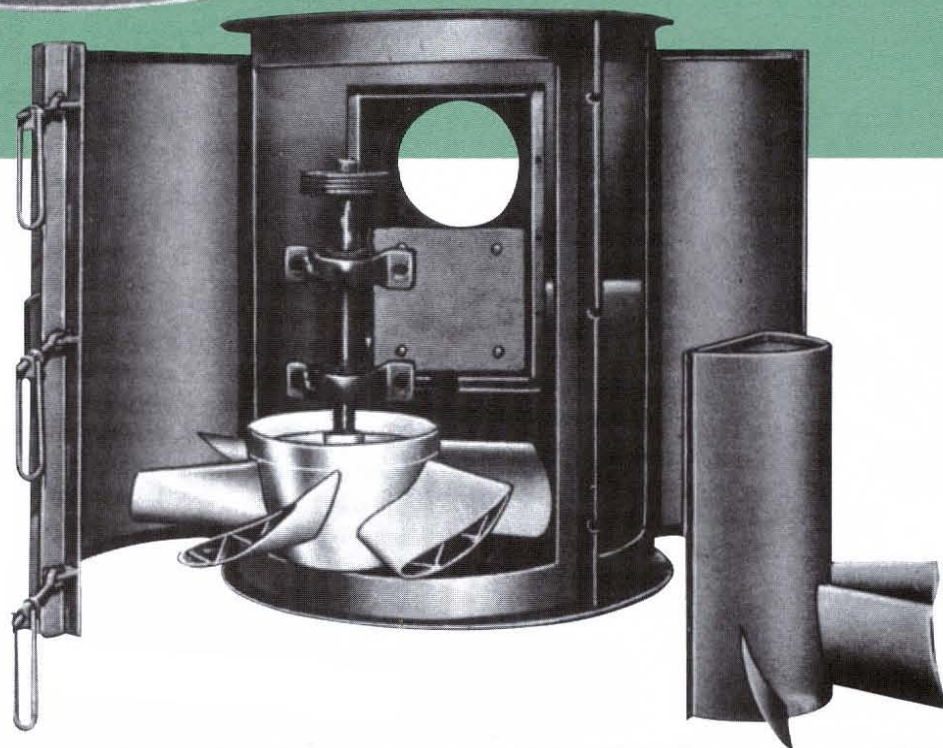
CLAM SHELL VANE AXIAL BELT DRIVE



APPLICATIONS

- PAINT BOOTHS
- FUME EXHAUST
- LINT COLLECTION
- DUST COLLECTING

Clam Shell design comes with full length 180° access doors for easy cleaning and maintenance. Split bearing tunnel allows for complete removal of the wheel shaft and bearing assembly.



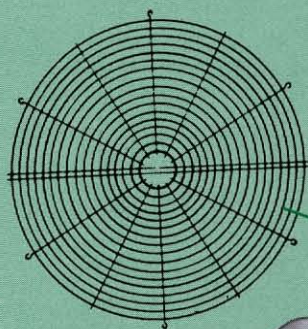
ACCESSORIES and SPECIAL FEATURES



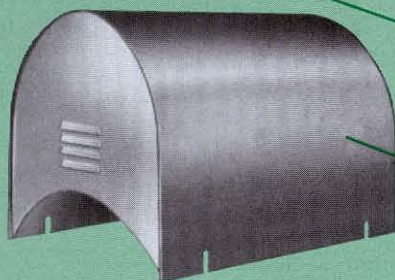
Streamlined Inlet



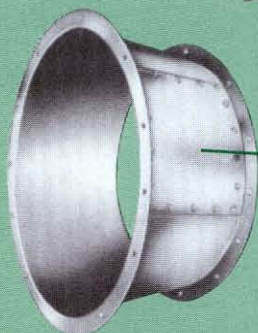
Outlet or Inlet Cone



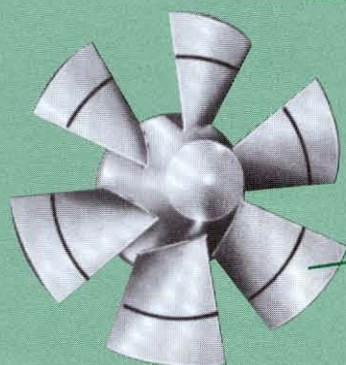
Inlet Screen



Motor & Drive Cover



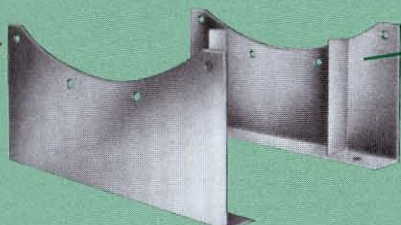
Access Door on Cone



Bronze Tipped



External Belt Guard



Mounting Feet

STREAMLINED INLET

Used to reduce entrance losses where there are no duct connections. Will not support fan in vertical air flow installations. Heavy gauge spinning which bolts to fan housing. For open inlet connections, streamlined inlet must be used to obtain tabulated performance.

OUTLET OR INLET CONE

Generally a Vane axial fan should be selected having a diameter 20% smaller than the duct. The inlet and outlet of the fan then should be connected to a tapered cone connection. The outlet cone should be used wherever possible since the capacity tables are based on its use. Flanged heavy gauge sections continuously welded and punched for bolted connections designed to support the fan.

INLET SCREEN

Constructed of heavy gauge wire or expanded metal.

MOTOR & DRIVE COVER

Arrangement 9 V-belt driven fans when installed outside should be provided with protective hoods over the motor and drive. Welded steel which attaches to the motor support brackets.

ACCESS DOORS

Plate type access doors are available and are mounted on the inlet or outlet cone only. Formed to match the shape of the cone and fastened with stud bolts. If complete access to internal parts is required a spray-booth vaneaxial should be used.

BRONZE TIPPED WHEELS

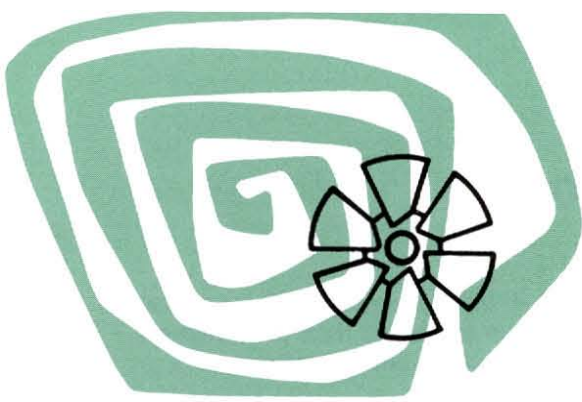
Bronze Tipped wheels are available in the complete range of sizes 15 thru 54 inch diameter.

EXTERNAL BELT GUARD

Arrangement 9 V-belt driven fans can be furnished with a guard over the motor sheave and exposed V-belts. All welded steel construction and attached to the fan base for easy removal.

MOUNTING FEET

Heavy steel plate welded to the fan casing and cross braced for rigidity. Feet will be mounted on the casing opposite the motor unless otherwise specified. Spraybooth Vaneaxial Arrangement 9 fan legs are designed to permit swinging out the casing.



ELEVATED TEMPERATURE and ALTITUDE FAN SELECTION

Vaneaxial fans are suitable for handling temperatures to a maximum of 160°F.

Fan capacity tables are based on the fan handling standard air at 70° F., 29.92" barometric pressure at .075 pounds per cubic foot. For any operating conditions other than standard it is necessary to correct H.P. and static pressure.

Assuming that a fan is to handle 16,560 CFM at 2" SP at 160° F. at 6500 feet altitude, it would be necessary to make the following static pressure corrections:

1. Making a selection from the table below for 160°F. and 6500 feet altitude, the correction factor is 1.49

2. $2" \text{ SP} \times 1.49 = 3" \text{ SP}$ (at 70° F. at 29.92" Barometric pressure).

3. Selection of the proper size fan is then based on 16,560 CFM at 3" SP. These specifications indicate using a model 30W9 Arrangement 9 V-Belt Drive vaneaxial fan that shows a performance of 16,500 CFM at 3" SP requiring 13.01 BHP at 1553 RPM.

4. To correct the BHP, divide 13.01 by 1.49 = 8.73 BHP which is the corrected BHP at 160° F. and 6500 feet altitude.

5. On the basis of the above corrections, the model 30W9 Arrangement 9 V-Belt Drive Vaneaxial fan would deliver 16,560 CFM at 2" SP at 160° F. at 6500 feet altitude...requiring 8.73 BHP at 1553 RPM.

**STATIC PRESSURE CORRECTION FACTORS FOR TEMP. °F AND ALTITUDE (FT. ABOVE S.L.)
STANDARD AIR .075 LBS. PER CU. FT. — SEA LEVEL, 29.92" BAROMETRIC PRESS. AND 70° F. DRY**

| AIR TEMPERATURE F° | ALTITUDE (FEET) | | | | | | | | | | | | | | |
|-----------------------|-----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0' | 500' | 1000' | 1500' | 2000' | 2500' | 3000' | 3500' | 4000' | 4500' | 5000' | 5500' | 6000' | 6500' | 7000' |
| 0 | .87 | .88 | .90 | .92 | .93 | .95 | .97 | .99 | 1.00 | 1.02 | 1.04 | 1.06 | 1.08 | 1.09 | 1.11 |
| 40 | .94 | .96 | .98 | 1.00 | 1.01 | 1.03 | 1.05 | 1.07 | 1.09 | 1.11 | 1.13 | 1.16 | 1.18 | 1.20 | 1.22 |
| 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 |
| 80 | 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 |
| 100 | 1.06 | 1.08 | 1.10 | 1.12 | 1.14 | 1.16 | 1.18 | 1.20 | 1.22 | 1.25 | 1.27 | 1.29 | 1.32 | 1.35 | 1.37 |
| 120 | 1.09 | 1.11 | 1.13 | 1.16 | 1.18 | 1.20 | 1.22 | 1.24 | 1.27 | 1.29 | 1.31 | 1.34 | 1.37 | 1.39 | 1.43 |
| 140 | 1.13 | 1.15 | 1.17 | 1.20 | 1.22 | 1.24 | 1.26 | 1.29 | 1.31 | 1.34 | 1.36 | 1.39 | 1.41 | 1.44 | 1.48 |
| 160 | 1.17 | 1.19 | 1.21 | 1.24 | 1.26 | 1.28 | 1.31 | 1.33 | 1.35 | 1.38 | 1.41 | 1.43 | 1.46 | 1.49 | 1.53 |



TESTING and RATING

Chicago Blower Corporation certifies that the Arrangement 9 Vaneaxial V-Belt Drive Fans as shown herein have been tested and their performances rated, in accordance with the appropriate test codes and procedures.

All tests were conducted with the streamlined inlet and outlet cone in place.



SELECTION

Calculation of RPM and breakhorse power will depend on inlet and outlet conditions of each installation. Proper ducting may not always be possible and the following corrections should be applied.

Streamlined Inlet...The streamlined inlet minimizes entrance losses when there is no duct connection to the fan inlet. **FULL RATED PERFORMANCES** can only be obtained if the streamlined inlet is used for open inlet applications.

Outlet Cone-Inlet Cone...Vaneaxial fans are designed for higher velocities than centrifugal fans so that the casing is generally about 20% smaller than the ductwork. The outlet cone converts excess velocity to useful pressure and expands the casing to fit the usual duct size. When the outlet cone is not used the performance corrections listed in the below chart should be used. Inlet cones do not effect fan performance but are used to allow same size ducts at the inlet and outlet when an outlet cone is used.

Clamshell Fans...The Arrangement 9 Spraybooth V-Belt Drive fan performance must be corrected as per the below chart from the standard Arrangement 9 Vaneaxial performances because of the increased wheel clearance. **DO NOT SELECT CLAMSHELL PERFORMANCES FROM THE UPPER TWO RATINGS SHOWN IN EACH STATIC PRESSURE COLUMN FOR ANY MODEL FAN.**

PERFORMANCE CORRECTION FACTORS

| Arr. 9 V-Belt Drive | | | Arr. 9 Clamshell V-Belt Drive | | | | |
|---------------------|--------------|--------------|-------------------------------|--------------|--------------|------------------|--------------|
| Without Outlet Cone | | | Without Outlet Cone | | | With Outlet Cone | |
| Model | Increase RPM | Increase BHP | Model | Increase RPM | Increase BHP | Increase RPM | Increase BHP |
| M | 2% | 6% | M | 4% | 11% | 2% | 5% |
| W | 4% | 12% | W | 8% | 21% | 4% | 9% |

Corrections are applied at CFM and SP shown in performances, pages 9 through 14.



performances
SEE NOTE ①

SIZE
15

| | | CASING | | | | OUTLET CONE | | | | ** MAXIMUM B.H.P. | | | | TIP SPEED | |
|--------------|------|---|------|-----------|-------|---|------|-----------|-------|--|-------|--------------|-------|------------|-------|
| | | 1 7/8" Dia. Inside 1.21 Sq. Ft. Area | | | | 1 7/4" Dia. Inside 1.72 Sq. Ft. Area | | | | Model M 0.054 x (RPM/1000) ³ Model W 0.102 x (RPM/1000) ³ | | | | 3.86 x RPM | |
| | | MAXIMUM TIP SPEED | | | | CLASS I 12,500 | | | | CLASS II 15,500 | | | | | |
| | | MAXIMUM RPM | | | | 3238 | | | | 4016 | | | | | |
| MODEL 15 M 9 | | | | | | | | | | | | MODEL 15 W 9 | | | |
| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 1720 | 1000 | 1307 | 0.22 | 1978 | 0.42 | 2286 | 0.64 | 2580 | 0.91 | 2849 | 1.19 | 3094 | 1.49 | 3314 | 1.81 |
| 2064 | 1200 | 1407 | 0.28 | 1772 | 0.54 | 2406 | 0.76 | 2661 | 1.02 | 2913 | 1.32 | 3151 | 1.65 | 3376 | 1.99 |
| 2408 | 1400 | 1531 | 0.36 | 1842 | 0.63 | 2151 | 0.95 | 2788 | 1.18 | 3009 | 1.48 | 3226 | 1.80 | 3439 | 2.17 |
| 2752 | 1600 | 1669 | 0.47 | 1939 | 0.74 | 2211 | 1.07 | 2479 | 1.45 | 3142 | 1.69 | 3336 | 2.02 | 3528 | 2.37 |
| 3096 | 1800 | 1815 | 0.59 | 2051 | 0.88 | 2295 | 1.22 | 2538 | 1.61 | 2775 | 2.04 | 3476 | 2.29 | 3652 | 2.65 |
| 3440 | 2000 | 1969 | 0.75 | 2178 | 1.05 | 2396 | 1.40 | 2614 | 1.80 | 2834 | 2.24 | 3047 | 2.71 | 3795 | 2.97 |
| 4128 | 2400 | 2289 | 1.15 | 2459 | 1.48 | 2636 | 1.86 | 2815 | 2.27 | 3000 | 2.74 | 3181 | 3.23 | 3363 | 3.76 |
| 4816 | 2800 | 2617 | 1.70 | 2763 | 2.06 | 2911 | 2.47 | 3062 | 2.91 | 3215 | 3.39 | 3373 | 3.91 | 3530 | 4.46 |
| 5504 | 3200 | 2953 | 2.42 | 3079 | 2.82 | 3205 | 3.25 | 3337 | 3.73 | 3469 | 4.23 | 3604 | 4.77 | 3738 | 5.32 |
| 6192 | 3600 | 3293 | 3.33 | 3405 | 3.77 | 3518 | 4.24 | 3629 | 4.73 | 3747 | 5.28 | 3863 | 5.83 | 3984 | 6.42 |
| 6880 | 4000 | 3635 | 4.45 | 3735 | 4.93 | 3837 | 5.44 | 3939 | 5.97 | 4039 | 6.53 | 4146 | 7.14 | 4250 | 7.74 |
| 7568 | 4400 | 3979 | 5.81 | 4071 | 6.34 | 4163 | 6.89 | 4254 | 7.45 | 4347 | 8.05 | 4438 | 8.65 | 4536 | 9.32 |
| 8256 | 4800 | 4325 | 7.44 | 4409 | 8.01 | 4492 | 8.60 | 4577 | 9.21 | 4662 | 9.83 | 4746 | 10.48 | | |
| 8944 | 5200 | 4672 | 9.35 | 4750 | 9.97 | | | | | | | | | | |
| | | 4" SP | | 4 1/2" SP | | 5" SP | | 5 1/2" SP | | 6" SP | | 6 1/2" SP | | 7" SP | |
| 2752 | 1600 | 3719 | 2.76 | 3904 | 3.17 | 4086 | 3.61 | 4259 | 4.06 | 4428 | 4.51 | 4590 | 4.96 | 4747 | 5.43 |
| 3096 | 1800 | 3824 | 3.03 | 3992 | 3.43 | 4162 | 3.87 | 4328 | 4.33 | 4492 | 4.81 | 4650 | 5.31 | | |
| 3440 | 2000 | 3957 | 3.37 | 4113 | 3.78 | 4268 | 4.21 | 4419 | 4.66 | 4571 | 5.14 | 4724 | 5.64 | | |
| 4128 | 2400 | 3544 | 4.32 | 3719 | 4.89 | 3890 | 5.49 | 4680 | 5.58 | | | | | | |
| 4816 | 2800 | 3685 | 5.03 | 3840 | 5.64 | 3998 | 6.28 | 4151 | 6.93 | 4302 | 7.60 | 4450 | 8.29 | 4592 | 9.00 |
| 5504 | 3200 | 3877 | 5.93 | 4015 | 6.56 | 4149 | 7.21 | 4286 | 7.89 | 4422 | 8.60 | 4561 | 9.34 | 4696 | 10.07 |
| 6192 | 3600 | 4102 | 7.03 | 4222 | 7.67 | 4346 | 8.36 | 4469 | 9.07 | 4589 | 9.78 | 4710 | 10.53 | | |
| 6880 | 4000 | 4357 | 8.39 | 4465 | 9.05 | 4571 | 9.73 | 4680 | 10.44 | 4791 | 11.20 | | | | |
| 7568 | 4400 | 4631 | 9.99 | 4725 | 10.67 | | | | | | | | | | |

SIZE
18 1/4

| | | CASING | | | | OUTLET CONE | | | | ** MAXIMUM B.H.P. | | | | TIP SPEED | |
|------------------|------|--|-------|-----------|-------|--|-------|-----------|-------|--|-------|------------------|-------|------------|-------|
| | | 18 1/4" Dia. Inside 1.82 Sq. Ft. Area | | | | 21 13/16" Dia. Inside 2.60 Sq. Ft. Area | | | | Model M 0.152 x (RPM/1000) ³ Model W 0.287 x (RPM/1000) ³ | | | | 4.75 x RPM | |
| | | MAXIMUM TIP SPEED | | | | CLASS I 12,500 | | | | CLASS II 15,500 | | | | | |
| | | MAXIMUM RPM | | | | 2632 | | | | 3263 | | | | | |
| MODEL 18 1/4 M 9 | | | | | | | | | | | | MODEL 18 1/4 W 9 | | | |
| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 2600 | 1000 | 1063 | 0.34 | 1609 | 0.64 | 1858 | 0.97 | 2098 | 1.37 | 2316 | 1.80 | 2516 | 2.25 | 2695 | 2.74 |
| 3120 | 1200 | 1144 | 0.43 | 1441 | 0.82 | 1956 | 1.15 | 2164 | 1.54 | 2368 | 1.99 | 2562 | 2.49 | 2745 | 3.01 |
| 3640 | 1400 | 1245 | 0.55 | 1498 | 0.95 | 1749 | 1.44 | 2267 | 1.78 | 2447 | 2.23 | 2623 | 2.73 | 2797 | 3.28 |
| 4160 | 1600 | 1357 | 0.71 | 1576 | 1.12 | 1798 | 1.63 | 2016 | 2.19 | 2555 | 2.55 | 2712 | 3.05 | 2868 | 3.59 |
| 4680 | 1800 | 1475 | 0.89 | 1668 | 1.33 | 1866 | 1.85 | 2064 | 2.44 | 2256 | 3.08 | 2826 | 3.46 | 2970 | 4.01 |
| 5200 | 2000 | 1601 | 1.13 | 1771 | 1.59 | 1948 | 2.12 | 2125 | 2.72 | 2304 | 3.39 | 2478 | 4.10 | 3086 | 4.50 |
| 6240 | 2400 | 1861 | 1.74 | 2000 | 2.24 | 2143 | 2.81 | 2289 | 3.44 | 2439 | 4.14 | 2586 | 4.89 | 2735 | 5.69 |
| 7280 | 2800 | 2128 | 2.57 | 2246 | 3.12 | 2367 | 3.74 | 2490 | 4.41 | 2614 | 5.12 | 2742 | 5.91 | 2870 | 6.74 |
| 8320 | 3200 | 2401 | 3.66 | 2504 | 4.26 | 2606 | 4.91 | 2714 | 5.64 | 2821 | 6.40 | 2930 | 7.21 | 3040 | 8.05 |
| 9360 | 3600 | 2677 | 5.03 | 2769 | 5.70 | 2860 | 6.41 | 2951 | 7.15 | 3047 | 7.99 | 3141 | 8.82 | 3239 | 9.72 |
| 10400 | 4000 | 2956 | 6.73 | 3037 | 7.46 | 3120 | 8.23 | 3202 | 9.03 | 3284 | 9.87 | 3371 | 10.79 | 3455 | 11.71 |
| 11440 | 4400 | 3236 | 8.80 | 3310 | 9.59 | 3385 | 10.42 | 3459 | 11.27 | 3535 | 12.17 | 3608 | 13.09 | 3688 | 14.10 |
| 12480 | 4800 | 3517 | 11.25 | 3585 | 12.12 | 3653 | 13.00 | 3722 | 13.92 | 3790 | 14.87 | 3859 | 15.85 | | |
| 13520 | 5200 | 3798 | 14.15 | 3862 | 15.08 | | | | | | | | | | |
| | | 4" SP | | 4 1/2" SP | | 5" SP | | 5 1/2" SP | | 6" SP | | 6 1/2" SP | | 7" SP | |
| 4160 | 1600 | 3024 | 4.17 | 3175 | 4.80 | 3322 | 5.46 | 3463 | 6.13 | 3600 | 6.82 | 3732 | 7.50 | 3860 | 8.21 |
| 4680 | 1800 | 3109 | 4.58 | 3246 | 5.19 | 3384 | 5.86 | 3519 | 6.55 | 3652 | 7.28 | 3781 | 8.03 | | |
| 5200 | 2000 | 3217 | 5.10 | 3344 | 5.72 | 3470 | 6.37 | 3593 | 7.05 | 3717 | 7.77 | 3841 | 8.54 | | |
| 6240 | 2400 | 2882 | 6.53 | 3024 | 7.40 | 3163 | 8.31 | 3805 | 8.44 | | | | | | |
| 7280 | 2800 | 2996 | 7.61 | 3122 | 8.53 | 3251 | 9.51 | 3375 | 10.48 | 3498 | 11.49 | 3618 | 12.54 | 3734 | 13.62 |
| 8320 | 3200 | 3152 | 8.98 | 3264 | 9.93 | 3374 | 10.91 | 3485 | 11.94 | 3595 | 13.00 | 3709 | 14.12 | 3818 | 15.23 |
| 9360 | 3600 | 3335 | 10.64 | 3433 | 11.60 | 3534 | 12.65 | 3634 | 13.71 | 3732 | 14.80 | 3830 | 15.92 | | |
| 10400 | 4000 | 3543 | 12.68 | 3631 | 13.69 | 3717 | 14.72 | 3805 | 15.80 | 3896 | 16.95 | | | | |
| 11440 | 4400 | 3765 | 15.11 | 3842 | 16.14 | | | | | | | | | | |

- ① - Ratings are based on standard arrangement 9 vane axial V-Belt drive fan with streamlined inlet and outlet cone. When outlet cone not used performances should be corrected. See Page 8.
 - ② - Do not select Clamshell Arrangement 9 performances from the upper two ratings shown in each static pressure column for either model fan. See page 8 for performance correction.
 - ③ - Model number designates fan size — blade pitch.
 - ④ - Do not select below or to the right of dotted line. Contact factory.
- **Maximum brake horsepower is based on fan operating in its normal range of selection. For exact BHP at "Block off" conditions contact factory for performance curve.



VANE AXIAL V-BELT DRIVE

performances

SEE NOTE ①

SIZE

20

| CASING | OUTLET CONE | ** MAXIMUM B.H.P. | TIP SPEED |
|--------------------------------------|--|--|------------|
| 20" Dia. Inside 2.18 Sq. Ft. Area | 23 11/16" Dia. Inside 3.07 Sq. Ft. Area | Model M $0.246 \times \left(\frac{\text{RPM}}{1000}\right)^3$ Model W $0.467 \times \left(\frac{\text{RPM}}{1000}\right)^3$ | 5.20 x RPM |
| MAXIMUM TIP SPEED | CLASS I 12,500 | CLASS II 15,500 | |
| MAXIMUM RPM | 2404 | 2981 | |

MODEL 20 M 9

MODEL 20 W 9

| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
|-------|------|---------|-------|-------|-------|-----------|-------|-------|-------|-----------|-------|-------|-------|-----------|-------|
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 3070 | 1000 | 957 | 0.40 | 1477 | 0.79 | 1721 | 1.21 | 1952 | 1.69 | 2155 | 2.20 | 2330 | 2.74 | 2487 | 3.34 |
| 3684 | 1200 | 1022 | 0.50 | 1305 | 0.97 | 1799 | 1.42 | 2004 | 1.92 | 2199 | 2.47 | 2386 | 3.06 | 2557 | 3.67 |
| 4298 | 1400 | 1104 | 0.62 | 1349 | 1.13 | 1586 | 1.71 | 2083 | 2.21 | 2263 | 2.79 | 2429 | 3.38 | 2598 | 4.05 |
| 4912 | 1600 | 1198 | 0.79 | 1410 | 1.31 | 1625 | 1.93 | 1828 | 2.61 | 2344 | 3.15 | 2505 | 3.81 | 2656 | 4.48 |
| 5526 | 1800 | 1300 | 0.98 | 1485 | 1.53 | 1677 | 2.18 | 1866 | 2.89 | 2046 | 3.67 | 2213 | 4.49 | 2734 | 4.99 |
| 6140 | 2000 | 1407 | 1.23 | 1570 | 1.79 | 1742 | 2.46 | 1914 | 3.22 | 2084 | 4.02 | 2246 | 4.88 | 2399 | 5.78 |
| 7368 | 2400 | 1635 | 1.88 | 1762 | 2.48 | 1901 | 3.19 | 2043 | 3.99 | 2189 | 4.87 | 2330 | 5.78 | 2472 | 6.74 |
| 8596 | 2800 | 1872 | 2.77 | 1975 | 3.40 | 2089 | 4.16 | 2208 | 4.99 | 2329 | 5.89 | 2453 | 6.88 | 2577 | 7.93 |
| 9824 | 3200 | 2113 | 3.93 | 2200 | 4.62 | 2294 | 5.39 | 2396 | 6.28 | 2500 | 7.23 | 2606 | 8.23 | 2712 | 9.32 |
| 11052 | 3600 | 2357 | 5.41 | 2433 | 6.15 | 2513 | 6.96 | 2599 | 7.88 | 2689 | 8.88 | 2782 | 9.94 | 2874 | 11.03 |
| 12280 | 4000 | 2603 | 7.25 | 2671 | 8.04 | 2741 | 8.90 | 2815 | 9.84 | 2893 | 10.87 | 2974 | 11.99 | 3057 | 13.16 |
| 13508 | 4400 | 2851 | 9.47 | 2912 | 10.32 | 2975 | 11.24 | 3039 | 12.22 | 3107 | 13.28 | 3178 | 14.41 | 3252 | 15.63 |
| 14736 | 4800 | 3099 | 12.12 | 3155 | 13.04 | 3212 | 14.01 | 3270 | 15.04 | 3330 | 16.13 | 3393 | 17.30 | 3458 | 18.53 |
| 15964 | 5200 | 3349 | 15.23 | 3400 | 16.23 | 3452 | 17.26 | 3505 | 18.34 | | | | | | |
| 4912 | 1600 | 2800 | 5.17 | 2948 | 5.94 | 3090 | 6.72 | 3226 | 7.51 | 3355 | 8.33 | 3472 | 9.17 | | |
| 5526 | 1800 | 2874 | 5.73 | 3005 | 6.49 | 3134 | 7.26 | 3266 | 8.11 | 3394 | 8.99 | 3519 | 9.87 | | |
| 6140 | 2000 | 2955 | 6.31 | 3084 | 7.14 | 3208 | 7.97 | 3327 | 8.81 | 3441 | 9.65 | | | | |
| 7368 | 2400 | 2611 | 7.76 | 2742 | 8.81 | 2869 | 9.90 | 3488 | 10.40 | | | | | | |
| 8596 | 2800 | 2699 | 9.01 | 2821 | 10.11 | 2941 | 11.26 | 3059 | 12.46 | 3171 | 13.68 | 3282 | 14.94 | 3388 | 16.22 |
| 9824 | 3200 | 2821 | 10.46 | 2930 | 11.67 | 3036 | 12.88 | 3143 | 14.12 | 3249 | 15.40 | 3355 | 16.73 | 3458 | 18.09 |
| 11052 | 3600 | 2969 | 12.20 | 3065 | 13.45 | 3162 | 14.74 | 3259 | 16.08 | 3353 | 17.43 | 3448 | 18.83 | 3543 | 20.22 |
| 12280 | 4000 | 3140 | 14.34 | 3225 | 15.59 | 3310 | 16.91 | 3396 | 18.29 | 3483 | 19.72 | | | | |
| 13508 | 4400 | 3327 | 16.90 | 3403 | 18.20 | 3479 | 19.52 | 3556 | 20.91 | | | | | | |
| 14736 | 4800 | 3525 | 19.85 | | | | | | | | | | | | |

SIZE

24 1/2

| CASING | OUTLET CONE | ** MAXIMUM B.H.P. | TIP SPEED |
|--|---|---|------------|
| 24 1/2" Dia. Inside 3.27 Sq. Ft. Area | 29 1/16" Dia. Inside 4.60 Sq. Ft. Area | Model M $0.679 \times \left(\frac{\text{RPM}}{1000}\right)^3$ Model W $1.29 \times \left(\frac{\text{RPM}}{1000}\right)^3$ | 6.37 x RPM |
| MAXIMUM TIP SPEED | CLASS I 12,500 | CLASS II 15,500 | |
| MAXIMUM RPM | 1962 | 2433 | |

MODEL 24 1/2 M 9

MODEL 24 1/2 W 9

| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
|-------|------|---------|-------|-------|-------|-----------|-------|-------|-------|-----------|-------|-------|-------|-----------|-------|
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 4600 | 1000 | 781 | 0.60 | 1206 | 1.18 | 1405 | 1.81 | 1593 | 2.53 | 1759 | 3.30 | 1902 | 4.12 | 2030 | 5.01 |
| 5520 | 1200 | 834 | 0.75 | 1066 | 1.46 | 1469 | 2.14 | 1636 | 2.88 | 1795 | 3.70 | 1948 | 4.59 | 2087 | 5.51 |
| 6440 | 1400 | 901 | 0.94 | 1101 | 1.69 | 1294 | 2.57 | 1701 | 3.32 | 1847 | 4.19 | 1983 | 5.08 | 2120 | 6.08 |
| 7360 | 1600 | 978 | 1.18 | 1151 | 1.96 | 1326 | 2.89 | 1492 | 3.92 | 1914 | 4.73 | 2045 | 5.72 | 2168 | 6.73 |
| 8280 | 1800 | 1061 | 1.48 | 1212 | 2.29 | 1369 | 3.27 | 1523 | 4.34 | 1670 | 5.50 | 1807 | 6.74 | 2232 | 7.49 |
| 9200 | 2000 | 1149 | 1.85 | 1282 | 2.69 | 1422 | 3.70 | 1562 | 4.83 | 1701 | 6.03 | 1834 | 7.32 | 1958 | 8.67 |
| 11040 | 2400 | 1335 | 2.82 | 1439 | 3.72 | 1552 | 4.78 | 1668 | 5.98 | 1787 | 7.30 | 1902 | 8.68 | 2018 | 10.12 |
| 12880 | 2800 | 1528 | 4.16 | 1612 | 5.11 | 1705 | 6.24 | 1802 | 7.48 | 1901 | 8.85 | 2002 | 10.33 | 2103 | 11.90 |
| 14720 | 3200 | 1725 | 5.90 | 1796 | 6.93 | 1872 | 8.09 | 1956 | 9.43 | 2041 | 10.85 | 2127 | 12.35 | 2214 | 13.99 |
| 16560 | 3600 | 1924 | 8.12 | 1986 | 9.23 | 2051 | 10.45 | 2122 | 11.82 | 2195 | 13.33 | 2271 | 14.92 | 2347 | 16.55 |
| 18400 | 4000 | 2125 | 10.88 | 2180 | 12.06 | 2237 | 13.35 | 2298 | 14.77 | 2361 | 16.32 | 2428 | 17.99 | 2496 | 19.74 |
| 20240 | 4400 | 2327 | 14.21 | 2377 | 15.49 | 2428 | 16.87 | 2481 | 18.34 | 2537 | 19.93 | 2595 | 21.63 | 2655 | 23.46 |
| 22080 | 4800 | 2530 | 18.18 | 2575 | 19.56 | 2622 | 21.03 | 2670 | 22.57 | 2718 | 24.21 | 2770 | 25.96 | 2823 | 27.80 |
| 23920 | 5200 | 2734 | 22.85 | 2776 | 24.35 | 2818 | 25.90 | 2861 | 27.52 | | | | | | |
| 7360 | 1600 | 2286 | 7.76 | 2407 | 8.91 | 2523 | 10.08 | 2633 | 11.27 | 2739 | 12.50 | 2834 | 13.76 | | |
| 8280 | 1800 | 2346 | 8.60 | 2453 | 9.74 | 2558 | 10.89 | 2666 | 12.17 | 2771 | 13.48 | 2872 | 14.81 | | |
| 9200 | 2000 | 2412 | 9.47 | 2518 | 10.71 | 2619 | 11.96 | 2716 | 13.22 | 2809 | 14.48 | | | | |
| 11040 | 2400 | 2131 | 11.65 | 2239 | 13.22 | 2342 | 14.85 | 2448 | 15.60 | | | | | | |
| 12880 | 2800 | 2203 | 13.51 | 2303 | 15.17 | 2401 | 16.90 | 2497 | 18.69 | 2589 | 20.52 | 2679 | 22.41 | 2766 | 24.34 |
| 14720 | 3200 | 2303 | 15.70 | 2392 | 17.50 | 2479 | 19.33 | 2565 | 21.19 | 2653 | 23.11 | 2739 | 25.11 | 2823 | 27.15 |
| 16560 | 3600 | 2424 | 18.31 | 2502 | 20.19 | 2581 | 22.11 | 2660 | 24.13 | 2737 | 26.16 | 2815 | 28.26 | | |
| 18400 | 4000 | 2564 | 21.52 | 2633 | 23.40 | 2702 | 25.37 | 2772 | 27.45 | 2843 | 29.59 | | | | |
| 20240 | 4400 | 2716 | 25.36 | 2778 | 27.31 | 2840 | 29.29 | | | | | | | | |
| 22080 | 4800 | 2877 | 29.79 | | | | | | | | | | | | |

① Ratings are based on standard arrangement 9 vane axial V-Belt drive fan with streamlined inlet and outlet cone. When outlet cone not used performances should be corrected. See Page 8.

② Do not select Clamshell Arrangement 9 performances from the upper two ratings shown in each static pressure column for either model fan. See page 8 for performance correction.

③ Model number designates fan size — blade pitch.

④ Do not select below or to the right of dotted line. Contact factory.

**Maximum brake horsepower is based on fan operating in its normal range of selection. For exact BHP at "Block off" conditions contact factory for performance curve.



performances
SEE NOTE 1

SIZE
27

| | | CASING | | | | OUTLET CONE | | | | ** MAXIMUM B.H.P. | | | | TIP SPEED | |
|--------------|------|--------------------------------------|-------|-----------|-------|--------------------------------------|-------|-----------|-------|--|-------|-----------|-------|------------|-------|
| | | 27" Dia. Inside 3.98 Sq. Ft. Area | | | | 32" Dia. Inside 5.59 Sq. Ft. Area | | | | Model M 1.10 x $(\frac{RPM}{1000})^3$ Model W 2.09 x $(\frac{RPM}{1000})^3$ | | | | 7.02 x RPM | |
| | | MAXIMUM TIP SPEED | | | | CLASS I 12,500 | | | | CLASS II 15,500 | | | | | |
| | | MAXIMUM RPM | | | | 1781 | | | | 2208 | | | | | |
| MODEL 27 M 9 | | | | | | | | | | MODEL 27 W 9 | | | | | |
| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 5590 | 1000 | 709 | 0.73 | 1094 | 1.44 | 1275 | 2.20 | 1446 | 3.07 | 1596 | 4.00 | 1725 | 5.00 | 1842 | 6.09 |
| 6708 | 1200 | 757 | 0.91 | 967 | 1.77 | 1333 | 2.59 | 1484 | 3.50 | 1629 | 4.50 | 1767 | 5.57 | 1894 | 6.69 |
| 7826 | 1400 | 818 | 1.14 | 999 | 2.05 | 1175 | 3.12 | 1543 | 4.03 | 1676 | 5.09 | 1799 | 6.17 | 1924 | 7.39 |
| 8944 | 1600 | 887 | 1.43 | 1045 | 2.38 | 1204 | 3.51 | 1354 | 4.76 | 1736 | 5.75 | 1856 | 6.95 | 1967 | 8.17 |
| 10062 | 1800 | 963 | 1.79 | 1100 | 2.78 | 1242 | 3.97 | 1382 | 5.27 | 1515 | 6.68 | 1639 | 8.18 | 2025 | 9.10 |
| 11180 | 2000 | 1043 | 2.24 | 1163 | 3.27 | 1290 | 4.49 | 1418 | 5.87 | 1544 | 7.32 | 1664 | 8.89 | 1777 | 10.53 |
| 13416 | 2400 | 1211 | 3.43 | 1306 | 4.52 | 1408 | 5.81 | 1514 | 7.26 | 1621 | 8.87 | 1726 | 10.54 | 1831 | 12.29 |
| 15652 | 2800 | 1386 | 5.05 | 1463 | 6.20 | 1547 | 7.58 | 1635 | 9.09 | 1725 | 10.74 | 1817 | 12.55 | 1909 | 14.45 |
| 17888 | 3200 | 1565 | 7.17 | 1630 | 8.41 | 1699 | 9.83 | 1775 | 11.45 | 1852 | 13.17 | 1930 | 15.00 | 2009 | 16.99 |
| 20124 | 3600 | 1746 | 9.87 | 1802 | 11.21 | 1861 | 12.69 | 1925 | 14.36 | 1992 | 16.19 | 2061 | 18.12 | 2129 | 20.10 |
| 22360 | 4000 | 1928 | 13.21 | 1978 | 14.65 | 2030 | 16.22 | 2085 | 17.94 | 2143 | 19.82 | 2203 | 21.84 | 2265 | 23.98 |
| 24596 | 4400 | 2112 | 17.26 | 2157 | 18.81 | 2204 | 20.48 | 2251 | 22.27 | 2302 | 24.20 | 2354 | 26.27 | 2409 | 28.49 |
| 26832 | 4800 | 2296 | 22.08 | 2337 | 23.76 | 2379 | 25.53 | 2422 | 27.41 | 2467 | 29.40 | 2513 | 31.52 | 2561 | 33.77 |
| 29068 | 5200 | 2481 | 27.76 | 2519 | 29.58 | 2557 | 31.45 | 2597 | 33.42 | | | | | | |
| | | 4" SP | | 4 1/2" SP | | 5" SP | | 5 1/2" SP | | 6" SP | | 6 1/2" SP | | 7" SP | |
| 8944 | 1600 | 2074 | 9.42 | 2184 | 10.82 | 2289 | 12.24 | 2389 | 13.69 | 2485 | 15.18 | 2572 | 16.71 | | |
| 10062 | 1800 | 2129 | 10.45 | 2226 | 11.82 | 2322 | 13.23 | 2419 | 14.78 | 2514 | 16.38 | 2606 | 17.98 | | |
| 11180 | 2000 | 2189 | 11.51 | 2284 | 13.01 | 2377 | 14.52 | 2464 | 16.06 | 2549 | 17.58 | | | | |
| 13416 | 2400 | 1934 | 14.14 | 2031 | 16.05 | 2125 | 18.04 | 2584 | 18.95 | | | | | | |
| 15652 | 2800 | 1999 | 16.41 | 2089 | 18.42 | 2179 | 20.53 | 2266 | 22.70 | 2349 | 24.92 | 2431 | 27.22 | 2510 | 29.57 |
| 17888 | 3200 | 2090 | 19.07 | 2170 | 21.26 | 2249 | 23.47 | 2328 | 25.74 | 2407 | 28.07 | 2485 | 30.49 | 2562 | 32.97 |
| 20124 | 3600 | 2200 | 22.24 | 2270 | 24.52 | 2342 | 26.86 | 2414 | 29.30 | 2484 | 31.77 | 2554 | 34.32 | 2624 | 36.85 |
| 22360 | 4000 | 2326 | 26.14 | 2389 | 28.42 | 2452 | 30.82 | 2515 | 33.34 | 2580 | 35.94 | | | | |
| 24596 | 4400 | 2465 | 30.80 | 2521 | 33.16 | 2577 | 35.57 | 2634 | 38.11 | | | | | | |
| 26832 | 4800 | 2611 | 36.17 | | | | | | | | | | | | |

SIZE
30

| | | CASING | | | | OUTLET CONE | | | | ** MAXIMUM B.H.P. | | | | TIP SPEED | |
|--------------|------|--------------------------------------|-------|-----------|-------|---|-------|-----------|-------|--|-------|-----------|-------|------------|-------|
| | | 30" Dia. Inside 4.91 Sq. Ft. Area | | | | 35 9/16" Dia. Inside 6.90 Sq. Ft. Area | | | | Model M 1.87 x $(\frac{RPM}{1000})^3$ Model W 3.55 x $(\frac{RPM}{1000})^3$ | | | | 7.81 x RPM | |
| | | MAXIMUM TIP SPEED | | | | CLASS I 12,500 | | | | CLASS II 15,500 | | | | | |
| | | MAXIMUM RPM | | | | 1601 | | | | 1985 | | | | | |
| MODEL 30 M 9 | | | | | | | | | | MODEL 30 W 9 | | | | | |
| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 6900 | 1000 | 638 | 0.91 | 985 | 1.78 | 1147 | 2.71 | 1301 | 3.79 | 1437 | 4.94 | 1553 | 6.18 | 1658 | 7.51 |
| 8280 | 1200 | 681 | 1.12 | 870 | 2.18 | 1199 | 3.20 | 1336 | 4.33 | 1466 | 5.55 | 1591 | 6.88 | 1704 | 8.26 |
| 9660 | 1400 | 736 | 1.40 | 900 | 2.53 | 1057 | 3.85 | 1389 | 4.98 | 1509 | 6.28 | 1620 | 7.62 | 1732 | 9.12 |
| 11040 | 1600 | 799 | 1.77 | 940 | 2.94 | 1083 | 4.33 | 1219 | 5.87 | 1563 | 7.09 | 1670 | 8.58 | 1770 | 10.09 |
| 12420 | 1800 | 866 | 2.22 | 990 | 3.43 | 1118 | 4.90 | 1244 | 6.51 | 1364 | 8.25 | 1475 | 10.10 | 1823 | 11.23 |
| 13800 | 2000 | 938 | 2.77 | 1047 | 4.03 | 1161 | 5.55 | 1276 | 7.24 | 1389 | 9.04 | 1497 | 10.97 | 1599 | 13.00 |
| 16560 | 2400 | 1090 | 4.23 | 1175 | 5.58 | 1267 | 7.17 | 1362 | 3.97 | 1459 | 10.95 | 1553 | 13.01 | 1648 | 15.17 |
| 19320 | 2800 | 1248 | 6.23 | 1317 | 7.66 | 1393 | 9.36 | 1472 | 11.22 | 1553 | 13.26 | 1635 | 15.49 | 1718 | 17.84 |
| 22080 | 3200 | 1408 | 8.85 | 1467 | 10.38 | 1529 | 12.13 | 1597 | 14.14 | 1667 | 16.26 | 1737 | 18.52 | 1808 | 20.97 |
| 24840 | 3600 | 1571 | 12.18 | 1622 | 13.84 | 1675 | 15.67 | 1733 | 17.73 | 1793 | 19.98 | 1855 | 22.36 | 1916 | 24.82 |
| 27600 | 4000 | 1736 | 16.31 | 1781 | 18.09 | 1827 | 20.02 | 1877 | 22.15 | 1929 | 24.47 | 1983 | 26.97 | 2038 | 29.60 |
| 30360 | 4400 | 1901 | 21.31 | 1941 | 23.22 | 1983 | 25.29 | 2026 | 27.49 | 2072 | 29.88 | 2119 | 32.43 | 2168 | 35.17 |
| 33120 | 4800 | 2066 | 27.26 | 2103 | 29.33 | 2141 | 31.52 | 2180 | 33.84 | 2220 | 36.29 | 2262 | 38.92 | 2305 | 41.69 |
| 35880 | 5200 | 2233 | 34.27 | 2267 | 36.52 | 2301 | 38.83 | 2337 | 41.26 | | | | | | |
| | | 4" SP | | 4 1/2" SP | | 5" SP | | 5 1/2" SP | | 6" SP | | 6 1/2" SP | | 7" SP | |
| 11040 | 1600 | 1867 | 11.63 | 1965 | 13.36 | 2060 | 15.11 | 2150 | 16.90 | 2237 | 18.74 | 2315 | 20.63 | | |
| 12420 | 1800 | 1916 | 12.90 | 2004 | 14.60 | 2089 | 16.33 | 2177 | 18.25 | 2263 | 20.22 | 2346 | 22.20 | | |
| 13800 | 2000 | 1970 | 14.21 | 2056 | 16.06 | 2139 | 17.93 | 2218 | 19.82 | 2294 | 21.71 | | | | |
| 16560 | 2400 | 1740 | 17.46 | 1828 | 19.82 | 1912 | 22.27 | 2326 | 23.39 | | | | | | |
| 19320 | 2800 | 1799 | 20.26 | 1880 | 22.74 | 1961 | 25.34 | 2039 | 28.03 | 2114 | 30.77 | 2188 | 33.60 | 2259 | 36.50 |
| 22080 | 3200 | 1881 | 23.54 | 1953 | 26.25 | 2024 | 28.98 | 2095 | 31.77 | 2166 | 34.65 | 2237 | 37.64 | 2306 | 40.71 |
| 24840 | 3600 | 1980 | 27.46 | 2043 | 30.27 | 2108 | 33.15 | 2172 | 36.17 | 2235 | 39.22 | 2299 | 42.37 | 2362 | 45.49 |
| 27600 | 4000 | 2094 | 32.27 | 2150 | 35.08 | 2207 | 38.04 | 2264 | 41.16 | 2322 | 44.37 | | | | |
| 30360 | 4400 | 2218 | 38.03 | 2269 | 40.94 | 2319 | 43.91 | 2371 | 47.05 | | | | | | |
| 33120 | 4800 | 2350 | 44.66 | | | | | | | | | | | | |

- 1 Ratings are based on standard arrangement 9 vane-axial V-Belt drive fan with streamlined inlet and outlet cone. When outlet cone not used performances should be corrected. See Page 8.
 - 2 Do not select Clamshell Arrangement 9 performances from the upper two ratings shown in each static pressure column for either model fan. See page 8 for performance correction.
 - 3 Model number designates fan size — blade pitch.
 - 4 Do not select below or to the right of dotted line. Contact factory.
- ** Maximum brake horsepower is based on fan operating in its normal range of selection. For exact BHP at "Block off" conditions contact factory for performance curve.



**VANE AXIAL
V-BELT DRIVE**

performances

SEE NOTE ●

SIZE

33

| CASING | OUTLET CONE | MAXIMUM B.H.P. | TIP SPEED |
|--------------------------------------|--|--|----------------------------|
| 33" Dia. Inside 5.94 Sq. Ft. Area | 39 1/8" Dia. Inside 8.35 Sq. Ft. Area | Model M 3.01 x $\left(\frac{RPM}{1000}\right)^3$ Model W 5.71 x $\left(\frac{RPM}{1000}\right)^3$ | 8.59 x RPM |
| MAXIMUM TIP SPEED MAXIMUM RPM | | CLASS I 12,500 1455 | CLASS II 15,500 1804 |
| MODEL 33 M 9 | | | |
| MODEL 33 W 9 | | | |

| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
|-------|------|---------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 8350 | 1000 | 580 | 1.10 | 895 | 2.15 | 1043 | 3.28 | 1183 | 4.59 | 1306 | 5.98 | 1412 | 7.47 | 1507 | 9.09 |
| 10020 | 1200 | 619 | 1.36 | 791 | 2.64 | 1090 | 3.88 | 1214 | 5.23 | 1333 | 6.72 | 1446 | 8.32 | 1549 | 9.99 |
| 11690 | 1400 | 669 | 1.70 | 818 | 3.06 | 961 | 4.65 | 1263 | 6.02 | 1372 | 7.60 | 1472 | 9.21 | 1574 | 11.03 |
| 13360 | 1600 | 726 | 2.14 | 855 | 3.56 | 985 | 5.24 | 1108 | 7.11 | 1421 | 8.58 | 1518 | 10.38 | 1609 | 12.21 |
| 15030 | 1800 | 788 | 2.68 | 900 | 4.15 | 1016 | 5.93 | 1131 | 7.87 | 1240 | 9.98 | 1341 | 12.22 | 1657 | 13.59 |
| 16700 | 2000 | 853 | 3.35 | 952 | 4.88 | 1056 | 6.71 | 1160 | 8.76 | 1263 | 10.94 | 1361 | 13.28 | 1454 | 15.73 |
| 20040 | 2400 | 991 | 5.12 | 1068 | 6.75 | 1152 | 8.67 | 1238 | 10.85 | 1326 | 13.25 | 1412 | 15.74 | 1498 | 18.36 |
| 23380 | 2800 | 1134 | 7.54 | 1197 | 9.27 | 1266 | 11.32 | 1338 | 13.58 | 1411 | 16.05 | 1487 | 18.74 | 1562 | 21.59 |
| 26720 | 3200 | 1280 | 10.71 | 1333 | 12.56 | 1390 | 14.68 | 1452 | 17.11 | 1515 | 19.68 | 1579 | 22.41 | 1644 | 25.38 |
| 30060 | 3600 | 1429 | 14.74 | 1475 | 16.74 | 1523 | 18.96 | 1575 | 21.45 | 1630 | 24.18 | 1686 | 27.06 | 1742 | 30.03 |
| 33400 | 4000 | 1578 | 19.73 | 1619 | 21.89 | 1661 | 24.23 | 1706 | 26.80 | 1753 | 29.61 | 1802 | 32.63 | 1853 | 35.82 |
| 36740 | 4400 | 1728 | 25.78 | 1765 | 28.10 | 1803 | 30.60 | 1842 | 33.27 | 1883 | 36.15 | 1926 | 39.24 | 1971 | 42.55 |
| 40080 | 4800 | 1878 | 32.99 | 1912 | 35.49 | 1947 | 38.14 | 1982 | 40.94 | 2018 | 43.92 | 2056 | 47.09 | 2096 | 50.44 |
| 43420 | 5200 | 2030 | 41.46 | 2061 | 44.18 | 2092 | 46.98 | 2124 | 49.93 | | | | | | |
| CFM | OV | 4" SP | | 4 1/2" SP | | 5" SP | | 5 1/2" SP | | 6" SP | | 6 1/2" SP | | 7" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 13360 | 1600 | 1697 | 14.08 | 1787 | 16.17 | 1873 | 18.28 | 1955 | 20.45 | 2033 | 22.68 | 2104 | 24.96 | 2170 | 27.32 |
| 15030 | 1800 | 1742 | 15.61 | 1821 | 17.66 | 1899 | 19.76 | 1979 | 22.08 | 2057 | 24.46 | 2132 | 26.86 | 2200 | 29.34 |
| 16700 | 2000 | 1791 | 17.19 | 1869 | 19.44 | 1944 | 21.70 | 2016 | 23.98 | 2086 | 26.26 | | | | |
| 20040 | 2400 | 1582 | 21.13 | 1662 | 23.98 | 1739 | 26.95 | 2114 | 28.30 | | | | | | |
| 23380 | 2800 | 1636 | 24.52 | 1710 | 27.51 | 1783 | 30.67 | 1854 | 33.92 | 1922 | 37.23 | 1989 | 40.66 | 2054 | 44.17 |
| 26720 | 3200 | 1710 | 28.48 | 1776 | 31.76 | 1840 | 35.07 | 1905 | 38.44 | 1969 | 41.93 | 2034 | 45.55 | 2096 | 49.25 |
| 30060 | 3600 | 1800 | 33.23 | 1858 | 36.62 | 1916 | 40.12 | 1975 | 43.77 | 2032 | 47.46 | 2090 | 51.26 | 2147 | 55.04 |
| 33400 | 4000 | 1903 | 39.05 | 1954 | 42.45 | 2006 | 46.03 | 2058 | 49.81 | 2111 | 53.69 | | | | |
| 36740 | 4400 | 2017 | 46.02 | 2063 | 49.54 | 2108 | 53.13 | 2155 | 56.93 | | | | | | |
| 40080 | 4800 | 2136 | 54.04 | | | | | | | | | | | | |

SIZE

36 1/2

| CASING | OUTLET CONE | ** MAXIMUM B.H.P. | TIP SPEED |
|--|--|--|----------------------------|
| 36 3/8" Dia. Inside 7.22 Sq. Ft. Area | 43 1/16" Dia. Inside 10.12 Sq. Ft. Area | Model M 5.35 x $\left(\frac{RPM}{1000}\right)^3$ Model W 9.86 x $\left(\frac{RPM}{1000}\right)^3$ | 9.46 x RPM |
| MAXIMUM TIP SPEED MAXIMUM RPM | | CLASS I 12,500 1321 | CLASS II 15,500 1638 |
| MODEL 36 1/2 M 9 | | | |
| MODEL 36 1/2 W 9 | | | |

| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
|-------|------|---------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 10120 | 1000 | 515 | 1.30 | 766 | 2.40 | 895 | 3.71 | 1009 | 5.13 | 1124 | 6.83 | 1230 | 8.65 | 1326 | 10.62 |
| 12144 | 1200 | 546 | 1.58 | 810 | 2.83 | 933 | 4.34 | 1042 | 5.90 | 1139 | 7.52 | 1234 | 9.33 | 1331 | 11.38 |
| 14168 | 1400 | 589 | 2.01 | 727 | 3.64 | 976 | 4.97 | 1081 | 6.73 | 1176 | 8.56 | 1263 | 10.41 | 1344 | 12.32 |
| 16192 | 1600 | 639 | 2.57 | 755 | 4.17 | 880 | 6.32 | 1123 | 7.58 | 1215 | 9.59 | 1301 | 11.67 | 1381 | 13.75 |
| 18216 | 1800 | 693 | 3.27 | 792 | 4.86 | 900 | 6.99 | 1012 | 9.53 | 1258 | 10.65 | 1341 | 12.90 | 1419 | 15.22 |
| 20240 | 2000 | 750 | 4.10 | 838 | 5.79 | 931 | 7.84 | 1030 | 10.39 | 1130 | 13.25 | 1385 | 14.19 | 1460 | 16.66 |
| 24288 | 2400 | 869 | 6.27 | 940 | 8.17 | 1014 | 10.26 | 1091 | 12.67 | 1172 | 15.53 | 1256 | 18.76 | 1340 | 22.20 |
| 28336 | 2800 | 993 | 9.22 | 1052 | 11.35 | 1114 | 13.62 | 1178 | 16.08 | 1243 | 18.76 | 1312 | 21.92 | 1381 | 25.34 |
| 32384 | 3200 | 1119 | 13.07 | 1170 | 15.41 | 1224 | 17.93 | 1278 | 20.56 | 1334 | 23.35 | 1390 | 26.31 | 1448 | 29.63 |
| 36432 | 3600 | 1248 | 17.97 | 1292 | 20.51 | 1338 | 23.25 | 1386 | 26.13 | 1435 | 29.07 | 1484 | 32.17 | 1534 | 35.46 |
| 40480 | 4000 | 1377 | 24.02 | 1416 | 26.77 | 1457 | 29.72 | 1500 | 32.83 | 1543 | 36.04 | 1587 | 39.29 | 1631 | 42.73 |
| 44528 | 4400 | 1508 | 31.36 | 1543 | 34.33 | 1580 | 37.49 | 1617 | 40.81 | 1656 | 44.26 | 1695 | 47.79 | 1735 | 51.35 |
| 48576 | 4800 | 1638 | 40.12 | 1671 | 43.29 | 1704 | 46.67 | 1738 | 50.20 | 1773 | 53.87 | 1808 | 57.65 | 1844 | 61.49 |
| 52624 | 5200 | 1770 | 50.41 | 1800 | 53.84 | 1830 | 57.42 | 1861 | 61.16 | 1892 | 65.02 | 1924 | 69.02 | 1958 | 73.12 |
| CFM | OV | 4" SP | | 4 1/2" SP | | 5" SP | | 5 1/2" SP | | 6" SP | | 6 1/2" SP | | 7" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 16192 | 1600 | 1456 | 15.89 | 1527 | 18.07 | 1598 | 20.43 | 1670 | 22.97 | 1743 | 25.73 | 1813 | 28.53 | 1881 | 31.42 |
| 18216 | 1800 | 1493 | 17.58 | 1563 | 19.91 | 1630 | 22.32 | 1694 | 24.75 | 1756 | 27.32 | 1820 | 30.06 | 1884 | 32.95 |
| 20240 | 2000 | 1533 | 19.20 | 1601 | 21.80 | 1667 | 24.44 | 1730 | 27.02 | 1790 | 29.69 | 1849 | 32.38 | 1905 | 35.11 |
| 24288 | 2400 | 1620 | 22.65 | 1685 | 25.58 | 1747 | 28.54 | 1808 | 31.58 | 1867 | 34.68 | 1924 | 37.80 | | |
| 28336 | 2800 | 1453 | 29.13 | 1526 | 33.11 | 1601 | 33.00 | 1667 | 36.34 | 1730 | 39.76 | | | | |
| 32384 | 3200 | 1509 | 33.34 | 1570 | 37.25 | 1633 | 41.52 | 1697 | 45.97 | 1759 | 50.56 | | | | |
| 36432 | 3600 | 1584 | 38.89 | 1637 | 42.75 | 1691 | 46.93 | 1745 | 51.29 | 1800 | 55.92 | 1856 | 60.81 | 1913 | 65.86 |
| 40480 | 4000 | 1676 | 46.28 | 1720 | 49.97 | 1765 | 53.86 | 1813 | 58.14 | 1862 | 62.73 | 1910 | 67.52 | | |
| 44528 | 4400 | 1775 | 55.10 | 1815 | 58.88 | 1856 | 62.89 | 1897 | 66.97 | 1938 | 71.24 | | | | |
| 48576 | 4800 | 1881 | 65.39 | 1917 | 69.38 | 1954 | 73.50 | | | | | | | | |

- ① - Ratings are based on standard arrangement 9 vane-axial V-Belt drive fan with streamlined inlet and outlet cone. When outlet cone not used performances should be corrected. See Page 8.
 - ② - Do not select Clamshell Arrangement 9 performances from the upper two ratings shown in each static pressure column for either model fan. See page 8 for performance correction.
 - ③ - Model number designates fan size — blade pitch.
 - ④ - Do not select below or to the right of dotted line. Contact factory.
- **Maximum brake horsepower is based on fan operating in its normal range of selection. For exact BHP at "Block off" conditions contact factory for performance curve.



performances
SEE NOTE 1

SIZE
40 1/4

| | | CASING | | | | OUTLET CONE | | | | ** MAXIMUM B.H.P. | | | | TIP SPEED | |
|------------------|------|--|-------|-------|-------|---|-------|-------|-------|---|-------|-------|-------|-------------|-------|
| | | 40 1/4" Dia. Inside 8.84 Sq. Ft. Area | | | | 47 11/16" Dia. Inside 12.38 Sq. Ft. Area | | | | Model M 8.87 x (RPM/1000) ³ Model W 16.35 x (RPM/1000) ³ | | | | 10.46 x RPM | |
| | | MAXIMUM TIP SPEED | | | | CLASS I 12,500 | | | | CLASS II 15,000 | | | | | |
| | | MAXIMUM RPM | | | | 1195 | | | | 1482 | | | | | |
| MODEL 40 1/4 M 9 | | | | | | | | | | MODEL 40 1/4 W 9 | | | | | |
| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 12380 | 1000 | 556 | 1.47 | 692 | 2.94 | 809 | 4.54 | 912 | 6.29 | 1016 | 8.36 | 1112 | 10.59 | 1198 | 13.01 |
| 14856 | 1200 | 621 | 1.91 | 732 | 3.47 | 844 | 5.31 | 942 | 7.22 | 1030 | 9.20 | 1115 | 11.42 | 1202 | 13.93 |
| 17332 | 1400 | 532 | 2.46 | 657 | 4.46 | 882 | 6.09 | 977 | 8.24 | 1063 | 10.48 | 1142 | 12.74 | 1215 | 15.09 |
| 19808 | 1600 | 578 | 3.15 | 682 | 5.10 | 795 | 7.74 | 1015 | 9.28 | 1098 | 11.74 | 1176 | 14.28 | 1248 | 16.84 |
| 22284 | 1800 | 626 | 4.00 | 716 | 5.95 | 813 | 8.56 | 914 | 11.67 | 1137 | 13.04 | 1212 | 15.79 | 1283 | 18.63 |
| 24760 | 2000 | 678 | 5.03 | 757 | 7.08 | 841 | 9.60 | 931 | 12.72 | 1021 | 16.23 | 1251 | 17.38 | 1320 | 20.40 |
| 29712 | 2400 | 785 | 7.68 | 850 | 10.01 | 917 | 12.56 | 986 | 15.51 | 1059 | 19.01 | 1135 | 22.97 | 1211 | 27.18 |
| 34664 | 2800 | 897 | 11.29 | 951 | 13.90 | 1007 | 16.68 | 1065 | 19.69 | 1123 | 22.97 | 1185 | 26.83 | 1248 | 31.03 |
| 39616 | 3200 | 1011 | 16.01 | 1057 | 18.87 | 1106 | 21.95 | 1155 | 25.17 | 1205 | 28.58 | 1256 | 32.22 | 1309 | 36.27 |
| 44568 | 3600 | 1127 | 22.00 | 1168 | 25.11 | 1209 | 28.47 | 1253 | 31.99 | 1297 | 35.60 | 1341 | 39.39 | 1386 | 43.42 |
| 49520 | 4000 | 1245 | 29.41 | 1280 | 32.78 | 1317 | 36.39 | 1355 | 40.20 | 1395 | 44.13 | 1434 | 48.11 | 1474 | 52.32 |
| 54472 | 4400 | 1362 | 38.40 | 1394 | 42.03 | 1428 | 45.90 | 1462 | 49.96 | 1497 | 54.19 | 1532 | 58.52 | 1568 | 62.88 |
| 59424 | 4800 | 1481 | 49.12 | 1510 | 53.01 | 1540 | 57.14 | 1571 | 61.46 | 1602 | 65.96 | 1634 | 70.59 | 1667 | 75.29 |
| 64376 | 5200 | 1599 | 61.73 | 1626 | 65.93 | 1654 | 70.30 | 1682 | 74.88 | 1710 | 79.61 | 1739 | 84.51 | 1769 | 89.53 |
| 19808 | 1600 | 1316 | 19.45 | 1380 | 22.12 | 1444 | 25.02 | 1509 | 28.13 | 1575 | 31.50 | 1639 | 34.93 | 1700 | 38.47 |
| 22284 | 1800 | 1349 | 21.53 | 1413 | 24.38 | 1473 | 27.33 | 1531 | 30.31 | 1587 | 33.44 | 1645 | 36.80 | 1703 | 40.35 |
| 24760 | 2000 | 1385 | 23.51 | 1447 | 26.70 | 1506 | 29.92 | 1563 | 33.09 | 1618 | 36.35 | 1671 | 39.64 | 1722 | 42.99 |
| 29712 | 2400 | 1464 | 27.73 | 1523 | 31.32 | 1579 | 34.95 | 1634 | 38.67 | 1687 | 42.46 | 1739 | 46.29 | | |
| 34664 | 2800 | 1313 | 35.67 | 1379 | 40.54 | 1444 | 44.49 | 1509 | 48.69 | | | | | | |
| 39616 | 3200 | 1364 | 40.82 | 1419 | 45.61 | 1476 | 50.84 | 1533 | 56.29 | 1590 | 61.90 | | | | |
| 44568 | 3600 | 1431 | 47.62 | 1479 | 52.34 | 1528 | 57.46 | 1577 | 62.79 | 1627 | 68.47 | 1677 | 74.45 | 1729 | 80.64 |
| 49520 | 4000 | 1514 | 56.67 | 1555 | 61.19 | 1596 | 65.95 | 1639 | 71.19 | 1683 | 76.80 | 1727 | 82.67 | | |
| 54472 | 4400 | 1604 | 67.46 | 1640 | 72.09 | 1678 | 77.00 | 1714 | 82.00 | 1751 | 87.22 | | | | |
| 59424 | 4800 | 1700 | 80.07 | 1733 | 84.95 | 1766 | 90.00 | | | | | | | | |

SIZE
44 1/2

| | | CASING | | | | OUTLET CONE | | | | ** MAXIMUM B.H.P. | | | | TIP SPEED | |
|------------------|------|---|-------|-------|--------|---|--------|-------|--------|--|--------|-------|--------|-------------|--------|
| | | 44 1/2" Dia. Inside 10.80 Sq. Ft. Area | | | | 52 11/16" Dia. Inside 15.14 Sq. Ft. Area | | | | Model M 14.66 x (RPM/1000) ³ Model W 27.02 x (RPM/1000) ³ | | | | 11.57 x RPM | |
| | | MAXIMUM TIP SPEED | | | | CLASS I 12,500 | | | | CLASS II 15,500 | | | | | |
| | | MAXIMUM RPM | | | | 1080 | | | | 1340 | | | | | |
| MODEL 44 1/2 M 9 | | | | | | | | | | MODEL 44 1/2 W 9 | | | | | |
| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 15140 | 1000 | 503 | 1.79 | 626 | 3.59 | 732 | 5.55 | 825 | 7.68 | 919 | 10.22 | 1005 | 12.95 | 1084 | 15.90 |
| 18168 | 1200 | 562 | 2.33 | 662 | 4.24 | 763 | 6.49 | 852 | 8.83 | 931 | 11.25 | 1009 | 13.96 | 1088 | 17.03 |
| 21196 | 1400 | 627 | 3.06 | 594 | 5.45 | 798 | 7.44 | 883 | 10.08 | 961 | 12.81 | 1033 | 15.58 | 1099 | 18.45 |
| 24224 | 1600 | 522 | 3.85 | 617 | 6.24 | 719 | 9.46 | 818 | 11.34 | 994 | 14.35 | 1063 | 17.46 | 1129 | 20.58 |
| 27252 | 1800 | 567 | 4.89 | 647 | 7.28 | 736 | 10.46 | 827 | 14.26 | 1029 | 15.94 | 1096 | 19.30 | 1160 | 22.78 |
| 30280 | 2000 | 613 | 6.14 | 685 | 8.66 | 761 | 11.73 | 842 | 15.55 | 924 | 19.84 | 1132 | 21.24 | 1194 | 24.93 |
| 36336 | 2400 | 710 | 9.39 | 769 | 12.23 | 829 | 15.36 | 892 | 18.96 | 958 | 23.24 | 1027 | 28.07 | 1095 | 33.23 |
| 42392 | 2800 | 811 | 13.80 | 860 | 16.99 | 911 | 20.38 | 963 | 24.07 | 1016 | 28.08 | 1072 | 32.80 | 1129 | 37.93 |
| 48448 | 3200 | 915 | 19.57 | 956 | 23.07 | 1000 | 26.83 | 1045 | 30.76 | 1090 | 34.94 | 1136 | 39.38 | 1184 | 44.34 |
| 54504 | 3600 | 1020 | 26.89 | 1056 | 30.70 | 1094 | 34.80 | 1133 | 39.10 | 1173 | 43.51 | 1213 | 48.15 | 1254 | 53.07 |
| 60560 | 4000 | 1126 | 35.95 | 1158 | 40.07 | 1191 | 44.48 | 1226 | 49.14 | 1261 | 53.94 | 1297 | 58.80 | 1333 | 63.95 |
| 66616 | 4400 | 1232 | 46.94 | 1261 | 51.37 | 1291 | 56.11 | 1322 | 61.07 | 1354 | 66.24 | 1386 | 71.53 | 1418 | 76.86 |
| 72672 | 4800 | 1339 | 60.04 | 1365 | 64.79 | 1393 | 69.85 | 1421 | 75.12 | 1449 | 80.62 | 1478 | 86.28 | 1508 | 92.03 |
| 78728 | 5200 | 1447 | 75.45 | 1471 | 80.59 | 1496 | 85.94 | 1521 | 91.53 | 1547 | 97.32 | 1573 | 103.30 | 1600 | 109.44 |
| 24224 | 1600 | 1190 | 23.78 | 1248 | 27.04 | 1306 | 30.58 | 1365 | 34.38 | 1425 | 38.51 | 1482 | 42.70 | 1538 | 47.03 |
| 27252 | 1800 | 1220 | 26.31 | 1278 | 29.80 | 1332 | 33.40 | 1384 | 37.05 | 1435 | 40.88 | 1488 | 44.98 | 1540 | 49.32 |
| 30280 | 2000 | 1253 | 28.74 | 1309 | 32.63 | 1363 | 36.57 | 1414 | 40.44 | 1463 | 44.44 | 1511 | 48.45 | 1557 | 52.55 |
| 36336 | 2400 | 1325 | 33.89 | 1377 | 38.28 | 1428 | 42.72 | 1478 | 47.27 | 1526 | 51.90 | 1572 | 56.58 | | |
| 42392 | 2800 | 1188 | 43.60 | 1247 | 49.56 | 1305 | 54.39 | 1350 | 59.51 | | | | | | |
| 48448 | 3200 | 1234 | 49.89 | 1283 | 55.75 | 1335 | 62.14 | 1387 | 68.81 | 1438 | 75.66 | | | | |
| 54504 | 3600 | 1295 | 58.21 | 1338 | 63.98 | 1382 | 70.23 | 1426 | 76.75 | 1471 | 83.70 | 1517 | 91.00 | 1564 | 98.57 |
| 60560 | 4000 | 1370 | 69.27 | 1406 | 74.79 | 1443 | 80.61 | 1482 | 87.02 | 1522 | 93.88 | 1562 | 101.05 | | |
| 66616 | 4400 | 1451 | 82.46 | 1484 | 88.11 | 1517 | 94.13 | 1550 | 100.23 | 1584 | 106.61 | | | | |
| 72672 | 4800 | 1537 | 97.87 | 1567 | 103.83 | 1598 | 110.01 | | | | | | | | |

- 1 Ratings are based on standard arrangement 9 vane-axial V-Belt drive fan with streamlined inlet and outlet cone. When outlet cone not used performances should be corrected. See Page 8.
 - 2 Do not select Clamshell Arrangement 9 performances from the upper two ratings shown in each static pressure column for either model fan. See page 8 for performance correction.
 - 3 Model number designates fan size — blade pitch.
 - 4 Do not select below or to the right of dotted line. Contact factory.
- **Maximum brake horsepower is based on fan operating in its normal range of selection. For exact BHP at "Block off" conditions contact factory for performance curve.



**VANE AXIAL
V-BELT DRIVE**

performances
SEE NOTE ①

**SIZE
49**

| CASING | OUTLET CONE | ** MAXIMUM B.H.P. | TIP SPEED |
|---------------------------------------|---------------------------------------|--|-------------|
| 49" Dia. Inside 13.10 Sq. Ft. Area | 58" Dia. Inside 18.36 Sq. Ft. Area | Model M 23.73 x $\left(\frac{RPM}{1000}\right)^3$ Model W 43.74 x $\left(\frac{RPM}{1000}\right)^3$ | 12.74 x RPM |
| MAXIMUM TIP SPEED | CLASS I 12,500 | CLASS II 15,500 | |
| MAXIMUM RPM | 981 | 1217 | |

MODEL 49 M 9

MODEL 49 W 9

| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
|-------|------|---------|--------|-------|--------|-----------|--------|-------|--------|-----------|--------|-------|--------|-----------|--------|
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 18360 | 1000 | | | 569 | 4.36 | 664 | 6.73 | 749 | 9.32 | 834 | 12.39 | 913 | 15.70 | 984 | 19.28 |
| 22032 | 1200 | 510 | 2.82 | 601 | 5.14 | 693 | 7.87 | 774 | 10.71 | 846 | 13.64 | 916 | 16.92 | 988 | 20.64 |
| 25704 | 1400 | 570 | 3.71 | 539 | 6.61 | 725 | 9.02 | 802 | 12.22 | 873 | 15.53 | 938 | 18.89 | 998 | 22.37 |
| 29376 | 1600 | 632 | 4.85 | 560 | 7.56 | 653 | 11.47 | 834 | 13.75 | 902 | 17.39 | 966 | 21.17 | 1025 | 24.95 |
| 33048 | 1800 | 515 | 5.93 | 588 | 8.82 | 668 | 12.68 | 751 | 17.29 | 934 | 19.33 | 996 | 23.40 | 1054 | 27.61 |
| 36720 | 2000 | 557 | 7.45 | 622 | 10.50 | 691 | 14.23 | 765 | 18.86 | 839 | 24.05 | 1028 | 25.76 | 1084 | 30.23 |
| 44064 | 2400 | 645 | 11.39 | 698 | 14.83 | 753 | 18.62 | 810 | 22.99 | 870 | 28.18 | 933 | 34.04 | 995 | 40.28 |
| 51408 | 2800 | 737 | 16.74 | 781 | 20.60 | 827 | 24.72 | 875 | 29.18 | 922 | 34.04 | 974 | 39.77 | 1025 | 45.99 |
| 58752 | 3200 | 831 | 23.72 | 869 | 27.97 | 908 | 32.53 | 949 | 37.30 | 990 | 42.36 | 1032 | 47.75 | 1075 | 53.76 |
| 66096 | 3600 | 926 | 32.60 | 959 | 37.22 | 993 | 42.20 | 1029 | 47.41 | 1065 | 52.76 | 1102 | 58.38 | 1139 | 64.34 |
| 73440 | 4000 | 1022 | 43.59 | 1052 | 48.58 | 1082 | 53.93 | 1113 | 59.58 | 1146 | 65.40 | 1178 | 71.30 | 1211 | 77.54 |
| 80784 | 4400 | 1119 | 56.91 | 1145 | 62.29 | 1173 | 68.03 | 1201 | 74.05 | 1229 | 80.31 | 1259 | 86.72 | 1288 | 93.19 |
| 88128 | 4800 | 1216 | 72.80 | 1240 | 78.56 | 1265 | 84.69 | 1290 | 91.09 | 1316 | 97.75 | 1342 | 104.61 | 1369 | 111.58 |
| 95472 | 5200 | 1314 | 91.48 | 1336 | 97.71 | 1358 | 104.19 | 1381 | 110.98 | 1405 | 117.99 | 1429 | 125.25 | 1453 | 132.69 |
| 29376 | 1600 | 1081 | 28.83 | 1134 | 32.78 | 1186 | 37.07 | 1240 | 41.69 | 1294 | 46.69 | 1346 | 51.77 | 1396 | 57.02 |
| 33048 | 1800 | 1108 | 31.90 | 1160 | 36.14 | 1210 | 40.50 | 1257 | 44.92 | 1303 | 49.57 | 1351 | 54.54 | 1398 | 59.79 |
| 36720 | 2000 | 1138 | 34.85 | 1189 | 39.57 | 1237 | 44.34 | 1284 | 49.03 | 1329 | 53.88 | 1372 | 58.75 | 1414 | 63.71 |
| 44064 | 2400 | 1203 | 41.09 | 1251 | 46.41 | 1297 | 51.79 | 1342 | 57.31 | 1386 | 62.93 | 1428 | 68.60 | | |
| 51408 | 2800 | 1079 | 52.86 | 1133 | 60.08 | 1367 | 59.88 | 1408 | 65.94 | 1449 | 72.16 | | | | |
| 58752 | 3200 | 1120 | 60.49 | 1165 | 67.60 | 1212 | 75.34 | 1259 | 83.43 | 1306 | 91.74 | | | | |
| 66096 | 3600 | 1276 | 70.58 | 1215 | 77.58 | 1255 | 85.16 | 1295 | 93.06 | 1336 | 101.48 | 1378 | 110.34 | 1420 | 119.51 |
| 73440 | 4000 | 1244 | 83.98 | 1277 | 90.69 | 1311 | 97.73 | 1346 | 105.51 | 1382 | 113.83 | 1418 | 122.52 | | |
| 80784 | 4400 | 1318 | 99.98 | 1348 | 106.84 | 1378 | 114.12 | 1408 | 121.53 | 1439 | 129.27 | | | | |
| 88128 | 4800 | 1396 | 118.67 | 1423 | 125.89 | 1451 | 133.38 | | | | | | | | |

**SIZE
54 1/4**

| CASING | OUTLET CONE | ** MAXIMUM B.H.P. | TIP SPEED |
|---|---|--|-------------|
| 54 1/4" Dia. Inside 16.05 Sq. Ft. Area | 64 1/4" Dia. Inside 22.50 Sq. Ft. Area | Model M 39.48 x $\left(\frac{RPM}{1000}\right)^3$ Model W 72.75 x $\left(\frac{RPM}{1000}\right)^3$ | 14.11 x RPM |
| MAXIMUM TIP SPEED | CLASS I 12,500 | CLASS II 15,500 | |
| MAXIMUM RPM | 886 | 1099 | |

MODEL 54 1/4 M 9

MODEL 54 1/4 W 9

| CFM | OV | 1/2" SP | | 1" SP | | 1 1/2" SP | | 2" SP | | 2 1/2" SP | | 3" SP | | 3 1/2" SP | |
|--------|------|---------|--------|-------|--------|-----------|--------|-------|--------|-----------|--------|-------|--------|-----------|--------|
| | | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 22500 | 1000 | | | 514 | 5.34 | 600 | 8.26 | 676 | 11.42 | 754 | 15.19 | 825 | 19.24 | 889 | 23.63 |
| 27000 | 1200 | | | 543 | 6.30 | 626 | 9.64 | 699 | 13.12 | 764 | 16.72 | 827 | 20.74 | 892 | 25.30 |
| 31500 | 1400 | 515 | 4.55 | 581 | 7.44 | 654 | 11.06 | 725 | 14.97 | 789 | 19.04 | 847 | 23.15 | 901 | 27.41 |
| 36000 | 1600 | 571 | 5.95 | 506 | 9.27 | 590 | 14.06 | 753 | 16.86 | 815 | 21.32 | 872 | 25.95 | 926 | 30.59 |
| 40500 | 1800 | 629 | 7.66 | 531 | 10.81 | 603 | 15.55 | 678 | 21.20 | 844 | 23.70 | 899 | 28.68 | 952 | 33.85 |
| 45000 | 2000 | 503 | 9.13 | 562 | 12.87 | 624 | 17.44 | 691 | 23.12 | 758 | 29.48 | 829 | 31.57 | 879 | 37.05 |
| 54000 | 2400 | 583 | 13.96 | 631 | 18.18 | 680 | 22.82 | 732 | 28.18 | 786 | 34.54 | 842 | 41.72 | 898 | 49.38 |
| 63000 | 2800 | 666 | 20.51 | 706 | 25.25 | 747 | 30.30 | 790 | 35.77 | 833 | 41.73 | 880 | 48.75 | 926 | 56.37 |
| 72000 | 3200 | 750 | 29.08 | 785 | 34.28 | 820 | 39.88 | 857 | 45.72 | 894 | 51.93 | 932 | 58.53 | 971 | 65.90 |
| 81000 | 3600 | 837 | 39.96 | 866 | 45.62 | 897 | 51.72 | 930 | 58.11 | 962 | 64.67 | 995 | 71.56 | 1028 | 78.87 |
| 90000 | 4000 | 923 | 53.43 | 950 | 59.55 | 977 | 66.11 | 1006 | 73.03 | 1035 | 80.17 | 1064 | 87.39 | 1094 | 95.04 |
| 99000 | 4400 | 1011 | 69.76 | 1035 | 76.35 | 1059 | 83.39 | 1084 | 90.77 | 1110 | 98.45 | 1137 | 106.30 | 1163 | 114.22 |
| 108000 | 4800 | 1099 | 89.23 | 1120 | 96.30 | 1142 | 103.81 | 1165 | 111.65 | 1189 | 119.82 | 1213 | 128.23 | 1237 | 136.77 |
| 117000 | 5200 | 1187 | 112.13 | 1207 | 119.77 | 1227 | 127.72 | 1248 | 136.03 | 1269 | 144.63 | | | | |
| 36000 | 1600 | 976 | 35.34 | 1024 | 40.18 | 1071 | 45.44 | 1120 | 51.10 | 1168 | 57.23 | 1215 | 63.46 | 1261 | 68.89 |
| 40500 | 1800 | 1001 | 39.10 | 1048 | 44.29 | 1093 | 49.64 | 1136 | 55.06 | 1177 | 60.76 | 1220 | 66.85 | 1263 | 73.29 |
| 45000 | 2000 | 1028 | 42.72 | 1074 | 48.50 | 1118 | 54.35 | 1160 | 60.11 | 1200 | 66.04 | 1240 | 72.01 | 1277 | 78.09 |
| 54000 | 2400 | 1086 | 50.37 | 1130 | 56.89 | 1172 | 63.49 | 1212 | 70.25 | 1252 | 77.14 | 1290 | 84.08 | | |
| 63000 | 2800 | 974 | 64.80 | 1023 | 73.65 | 1235 | 73.40 | 1272 | 80.82 | 1309 | 88.45 | | | | |
| 72000 | 3200 | 1012 | 74.15 | 1053 | 82.86 | 1095 | 92.35 | 1138 | 102.26 | 1180 | 112.45 | 1245 | 135.25 | 1283 | 146.49 |
| 81000 | 3600 | 1062 | 86.51 | 1097 | 95.09 | 1134 | 104.38 | 1170 | 114.07 | 1207 | 124.39 | 1281 | 150.18 | | |
| 90000 | 4000 | 1124 | 102.95 | 1153 | 111.16 | 1184 | 119.80 | 1216 | 129.33 | 1248 | 139.52 | | | | |
| 99000 | 4400 | 1190 | 122.55 | 1217 | 130.96 | 1245 | 139.89 | 1272 | 148.97 | | | | | | |
| 108000 | 4800 | 1261 | 145.46 | | | | | | | | | | | | |

① Ratings are based on standard arrangement 9 vane-axial V-Belt drive fan with streamlined inlet and outlet cone. When outlet cone not used performances should be corrected. See Page 10.

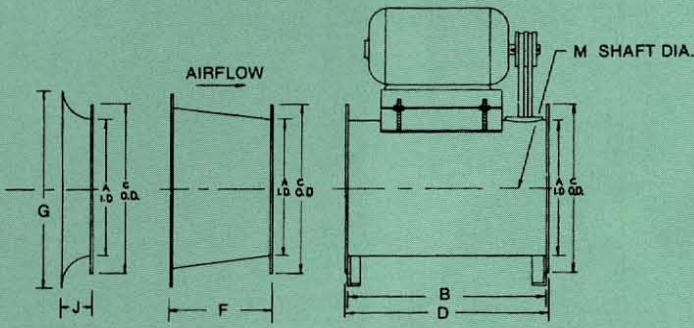
② Do not select Clamshell Arrangement 9 performances from the upper two ratings shown in each static pressure column for either model fan. See page 8 for performance correction.

③ Model number designates fan size — blade pitch.

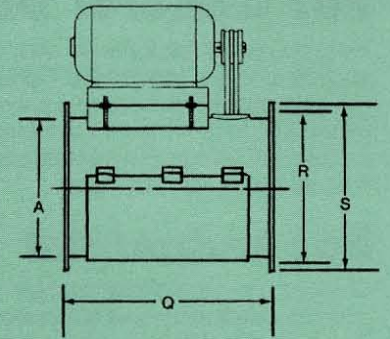
④ Do not select below or to the right of dotted line. Contact factory.

**Maximum brake horsepower is based on fan operating in its normal range of selection. For exact BHP at "Block off" conditions contact factory for performance curve.

VANE AXIAL V-BELT DRIVE



CLAMSHELL

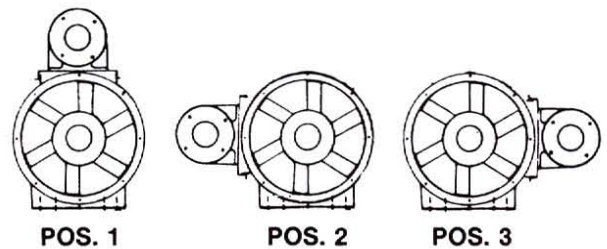


DIMENSIONS IN INCHES

| FAN SIZE | WHEEL DIA. | A | B | C | D | E | F | G | H | J | M-SHAFT DIA | |
|----------|------------|--------|--------|--------|----------|--------|----------|----------|--------|---------|-------------|---------|
| | | | | | | | | | | | CL I | CL II |
| 15 | 14-3/4 | 14-7/8 | 16-3/4 | 17-7/8 | 19 | 10 | 9-3/4 | | 13-1/4 | | 15/16 | 1-3/16 |
| 18-1/4 | 18-9/64 | 18-1/4 | 20-1/8 | 21-1/4 | 21 | 12-1/4 | 11-9/16 | 23-5/8 | 14-7/8 | 3-21/32 | 1-3/16 | 1-3/16 |
| 20 | 19-7/8 | 20 | 21-7/8 | 23 | 23 | 13-1/4 | 12-15/16 | 26-1/8 | 16-1/8 | 4 | 1-3/16 | 1-7/16 |
| 24-1/2 | 24-11/32 | 24-1/2 | 26-3/8 | 27-1/2 | 31-1/16 | 16-1/2 | 15-7/8 | 31-3/8 | 18-1/4 | 4-29/32 | 1-7/16 | 1-7/16 |
| 27 | 26-27/32 | 27 | 29 | 30 | 31-1/16 | 18 | 17-1/4 | 34-1/16 | 20-7/8 | 5-13/32 | 1-7/16 | 1-15/16 |
| 30 | 29-13/16 | 30 | 32 | 33 | 34-1/2 | 20 | 18-5/16 | 38-5/16 | 22-3/4 | 6 | 1-7/16 | 1-15/16 |
| 33 | 32-13/16 | 33 | 35 | 36 | 37-15/16 | 20-3/4 | 20-13/16 | 41-13/16 | 23-1/2 | 6-19/32 | 1-11/16 | 1-15/16 |
| 36-1/2 | 36-1/8 | 36-3/8 | 38-3/8 | 39-3/8 | 42 | 24 | 23-5/16 | 46-5/16 | 26 | 7-9/32 | 2-3/16 | 2-3/16 |
| 40-1/4 | 39-31/32 | 40-1/4 | 42-1/4 | 44-3/4 | 46-1/2 | 26-1/2 | 25-1/16 | 51-1/4 | 28-3/8 | 8 | 2-3/16 | 2-11/16 |
| 44-1/2 | 44-7/32 | 44-1/2 | 46-1/2 | 49 | 51-3/8 | 29-1/2 | 27-15/16 | 57-3/4 | 31 | 8-15/16 | 2-3/16 | 2-15/16 |
| 49 | 48-21/32 | 49 | 51 | 54-1/2 | 56-9/16 | 32 | 31-1/16 | 63-1/16 | 33-7/8 | 9-13/16 | 2-7/16 | 3-7/16 |
| 54-1/4 | 53-7/8 | 54-1/4 | 56-1/4 | 59-3/4 | 62-5/8 | 36 | 33-5/8 | 70-1/8 | 37-7/8 | 10-7/8 | 2-7/16 | 3-7/16 |

| FAN SIZE | Q | R | S |
|----------|---------|--------|--------|
| 15 | N/A | N/A | N/A |
| 18-1/4 | 1 | 1 | 1 |
| 20 | N/A | N/A | N/A |
| 24-1/2 | 36-1/4 | 26-7/8 | 28-3/4 |
| 27 | 40-9/16 | 29-3/8 | 31-1/4 |
| 30 | 43-3/8 | 32-3/8 | 34-1/4 |
| 33 | 46-3/4 | 35-3/8 | 37-1/4 |
| 36-1/2 | 49-7/8 | 39-1/4 | 41-3/4 |
| 40-1/4 | 54 | 43-1/8 | 45-5/8 |
| 44-1/2 | 59-1/2 | 47-3/8 | 49-7/8 |
| 49 | 64 | 52 | 54-1/2 |
| 54-1/4 | N/A | N/A | N/A |

MOTOR POSITION LOOKING AT DRIVE END



POSITION 1
FURNISHED AS
STANDARD
UNLESS OTHER-
WISE NOTED.

APPROXIMATE NET WEIGHT IN POUNDS

| FAN SIZE | 15 | 18-1/4 | 20 | 24-1/2 | 27 | 30 | 33 | 36-1/2 | 40-1/4 | 44-1/2 | 49 | 54-1/4 |
|-----------|-----|--------|-----|--------|-----|-----|-----|--------|--------|--------|------|--------|
| ARRG'T. 9 | 125 | 180 | 220 | 325 | 390 | 480 | 600 | 700 | 870 | 1050 | 1300 | 1570 |
| CLAMSHELL | 175 | 255 | 305 | 430 | 500 | 650 | 780 | 960 | 1080 | 1270 | 1600 | 1960 |

* FURNISHED WITH OPEN DRIP PROOF MOTORS.
DO NOT USE DIMENSIONS FOR CONSTRUCTION PURPOSES UNLESS CERTIFIED. APPROXIMATE NET WEIGHTS BASED ON CLASS I FANS, LESS MOTOR, DRIVES, AND ACCESSORIES.

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For Quality*

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Through Application Analysis*



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New Zealand, Norway,
Philippines, Portugal,
Saudi Arabia, Singapore,
South Africa, Spain, Sweden,
Thailand, Taiwan, Turkey,
Venezuela.



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fans for clean exhaust
or supply air*

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dirty and corrosive
environments*

Heavy Duty -

*Custom engineered
fans for specific
applications*

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