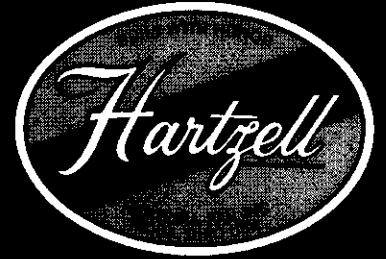


Fiberglass Backward Curved Centrifugal Fans

Type FA

Series 41

Series 41P



HARTZELL®

Hartzell Fan, Inc., Piqua, Ohio 45356
www.hartzellfan.com

Bulletin A-160-D May 2009

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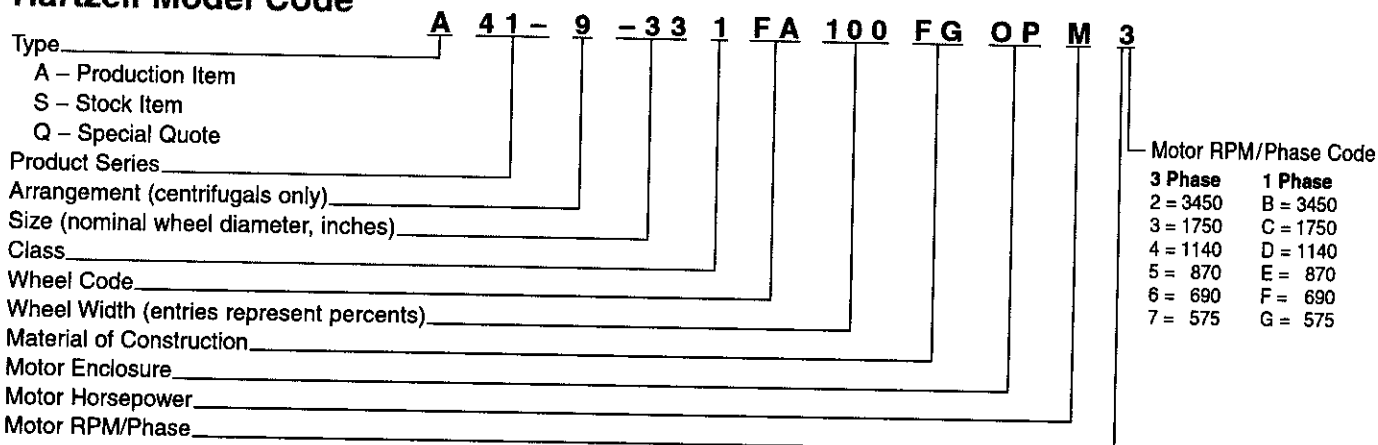
Certified Ratings for Air and Sound

Hartzell Fan, Inc. certifies that the Series 41, Fiberglass Backward Curved Centrifugal Fans, Type FA shown on pages 7–11 and 14–21, and Series 41P, Fiberglass Backward Curved Centrifugal Fan, Packaged, shown on pages 12–20, are licensed to bear the AMCA Seal for Air and Sound Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Standard 211 and AMCA Standard 311 and comply with the requirements of the AMCA Certified Ratings Program.

Sound Performance data is available upon request. Please contact the factory and ask for Engineering Publication #SD-160.

Hartzell Model Code Explanation

Hartzell Model Code



Motor Horsepower

Horsepower	1/4	1/3	1/2	3/4	1	1 1/2	2	3	5	7 1/2	10	15	20	25	30	40	50	60	75	100	125	150	200
Code Letter	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Example:

Assume a needed performance of 12,000 CFM at 5" SP, standard air. Reading the 33" rating table for 100% width on page 17, we find a fan RPM of 1,168 and brake horsepower (BHP) of 12.3. Required motor horsepower is 15. The model code can be constructed as follows: Type will be a production item (code A), product series for the Fiberglass Backward Curved Fans is 41, arrangement is 9 (code 9), size of the wheel is 33", class of construction is I (code 1), wheel code for this item

is FA, wheel width is 100% (code 100), material of construction is fiberglass (code FG), motor enclosure is open protected drip-proof (code OP), motor horsepower is 15 (code O), and motor RPM/phase is 1750 (code 3).

Note: All other informational fields must be filled with hyphens/dashes (-) if they are not applicable to the fan being considered.

This bulletin lists Hartzell's line of Fiberglass Backward Curved Centrifugal Fans, Type FA and accessories. More than 70 Hartzell offices can provide specific performance and installation data to meet your requirements. Call your Hartzell representative for assistance. Visit our website (www.hartzellfan.com) or call toll-free (1-800-336-3267) for the name of your Hartzell representative.



General Fiberglass Construction Features

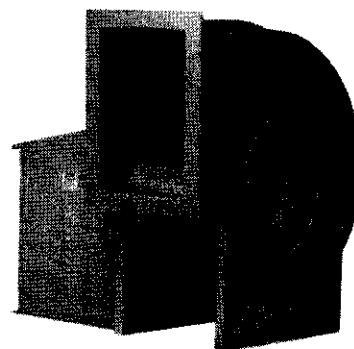
A variety of corrosion problems plague industry today. Fans and blowers made of coated steel or metals such as stainless and monel can handle some problem areas. Please refer to the corrosion resistance table on page 5 of this bulletin. Fiberglass centrifugal blowers can be used in most applications where corrosive elements exist in fume and vapor form. The resistance to corrosive elements is a major advantage, but the physical properties of fiberglass equipment offer these additional advantages:

- Fiberglass equipment is corrosion resistant.
- Fiberglass equipment weighs 25% less than comparable equipment made of carbon steel.
- Fiberglass has an extremely high strength-to-weight ratio, stronger than steel on a per-pound basis.
- Dimensional stability of fiberglass is excellent.
- Fiberglass air moving equipment will not become brittle at low temperatures and at 0°F the laminated fiberglass will be stronger than at room temperature.

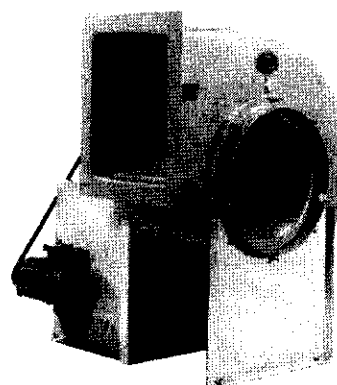
Hartzell Fan, Inc. conforms to ASTM D4167-97, Standard Specification for fiber-reinforced plastic fans and blowers, when optional surfacing veil, electrical grounding, and dynamic balancing to ASTM D4167-97 levels, are added to the fan.

The following are standard Hartzell fiberglass construction features:

- Corrosion resistant polyester resin, having a Class I flame spread rate of 25 or less is used for all housings. Vinylester resin having a Class II flame spread rate of 30 or less is used for all wheels.
- All structural parts in the airstream are fiberglass and resin. All fiberglass surfaces are protected with a minimum 10-mil thickness of chemical, flame, and ultraviolet resistant resin.
- Shafts are turned, ground, polished, and keyed at both ends with a fiberglass sleeve in the airstream. Shafts are sized to operate well below critical speed. 304 or 316 Stainless steel or monel shafting is available as an option at extra cost.
- Internal hardware (airstream) is Type 304 stainless steel. All internal hardware (airstream) is encapsulated. All external hardware (out of airstream) is zinc plated as standard. Where metal is subject to attack by the corrosive elements being handled, all metal parts can be resin-coated after assembly.
- A fiberglass and neoprene shaft seal is placed where the shaft leaves the housing along with a neoprene shaft slinger between the seal and wheel on belt drive units (seal is not gas tight).



Series 41P



Series 41

Fiberglass Centrifugal Fans

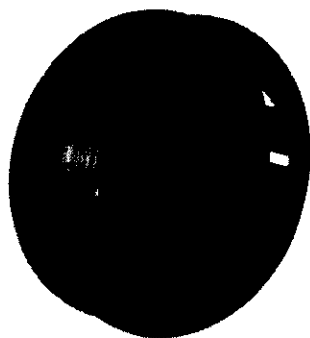
- Bearings on belt drive units are heavy duty, deep row radial ball or double row spherical roller type self-aligning and shielded in cast iron housings. Long inner races ensure even load distribution, providing a high radial and thrust load capacity. Bearings are relubricable for continuous service with lubrication tubes extended to the exterior of fan base as necessary.
- V-Belt Drives are oversized for long life and continuous duty as standard. Fixed pitch or variable pitch drives are available upon request. Belts are oil, heat, and static resistant type.

Type FA Wheel Features

The Type FA wheel is unique in the fan and blower industry. It is available in diameters from 12" to 60" in both clockwise and counter-clockwise rotations. The wheel is airfoil design and solid fiberglass die formed, constructed with Ashland Derakane 510-A corrosion resistant vinylester resin. The manufactured wheel is a single piece, removed from the pattern whole. This ensures each wheel is aerodynamically identical and provides reliable repeatable performance without the variability of hand made and taped components. The design is the result of a substantial investment in research, development, tooling, and manufacturing methods by Hartzell Fan, Inc.

The type FA wheel is highly efficient, with tapered inlet side and airfoil blades. It has non-overloading horsepower characteristic curve. When used in conjunction with a precision inlet cone it **efficiently moves large volumes of air at high pressures with low noise characteristics at low RPM.**

The fiberglass resin has a Class II flame spread rate of 30 or less. The wheel is electronically statically and dynamically balanced to the requirements of Fan Application Category BV-3 of AMCA ANSI Std. 204-96 and receives an Operational Test and Inspection before shipment. Special constructions are available for abrasive environments or extremely corrosive environments.



Type FA Wheel



Hartzell Selection Guide

The Hartzell Fiberglass Backward Curved Centrifugal Fan performances on the following pages are based on standard air conditions (sea level, 70°F, and 29.92 inches barometric pressure). Performance data does not include drive losses on belt drive units.

How to use Performance Tables

1. Select a model for a given air delivery and pressure by looking up the required flow vertically along the left column of the performance table and moving to the required pressure. The model is identified with each table.

2. Note the required RPM and BHP. Refer to page 2 Hartzell Model Code Explanation for additional details.

3. If non-standard temperature or altitude is involved, correct to standard air density (see Temperature/Altitude Applications).

When placing your order, be sure to specify the Hartzell Model Code. Be sure to include fan model, performance requirements, operating temperature, motor data (enclosure, voltage, mounting position, etc.), and a list of required accessory items. (See pages 22 and 23.) For selection assistance and additional data contact your local Hartzell Sales Representative for assistance.

Temperature/Altitude Applications

When a fan operates in ambient conditions, generally it is handling standard air at 70°F, 29.92" barometric pressure, weighing 0.075-lbs./cu. ft. For an application where the fan operates at other than ambient conditions (temperature, altitude, or both), correction factors must be applied to the selection of the fan. In addition, the standard construction of the fan must be modified.

Correction factors for temperatures and altitudes are provided in Table 1. When a fan operates at other than ambient conditions,

the correction factors in Table 1 will be required to correct static pressure and horsepower.

Table 2 shows the maximum safe operating speeds for each size fan wheel. At high temperatures, these maximum safe operating speeds should be derated.

Table 3 provides maximum safe speed correction factors by temperature and material construction. An example on the use of these tables appears at the bottom of this page.

Table 1 Altitude/Temperature Correction Factors

Temp.*(°F)	-50	-25	0	25	50	70	100	125	150	175	200	250
Factor	0.77	0.82	0.87	0.91	0.96	1.00	1.06	1.10	1.15	1.20	1.25	1.34

Alt.**(Ft.)	0	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
Factor	1.00	1.04	1.08	1.12	1.16	1.20	1.25	1.30	1.35	1.40	1.46

Above table has inverted values. Actual density is the reciprocal of the above values.

*At sea level. **At 70°F.

For corrections involving both temperature and altitude, correction factors should be multiplied.

Example: 150°F at 7000 ft.: Temperature factor 1.15 x altitude factor 1.30 = 1.50 combined correction factor.

Table 2 Maximum Safe Speeds @ 70°F

Fan Size	100% Width	66% Width
12	4,520	5,320
15	3,600	4,570
18	2,990	3,790
22	2,440	3,100
24	2,240	2,850
27	2,000	2,540
30	1,840	2,340
33	1,670	2,120
36	1,530	1,950
40	1,370	1,740
44	1,240	1,570
49	1,130	1,430
54	1,020	1,290
60	920	1,170

Use of Correction Factors and Tables

First select size, RPM and BHP of the blower needed.

If temperature or altitude is involved, correct to standard air.

Example: Assume the required performance to be 12,000 CFM at 4.62" SP, 175°F and 2000 feet altitude.

1. Temperature factor 1.20 x altitude factor 1.08 = 1.30 combined correction factor.
2. Correct SP to standard 4.62" SP x 1.30 = 6" SP for 70°F at sea level.
3. A Series 41, size 33" class II 66% width belt drive backward curved centrifugal, selected from the rating tables (page 17) for the new condition shows 12,000 CFM at 6" SP, 1,398 RPM and 15.5 BHP.
4. Correct the horsepower and static pressure in item 3 to non-standard performance by dividing by factor: 6" SP divided by 1.30 = 4.62" SP; 15.5 BHP divided by 1.30 = 11.9 BHP.
5. Check the maximum safe speed. Maximum speed at 70°F for fan size 33" 66% width, 2,020 RPM. Using the maximum safe speed factor table for fiberglass construction yields a safe speed factor of .95. The maximum safe speed is 2,020 x .95 = 1,919 RPM; thus operation at 1,438 RPM at 175°F is satisfactory.
6. Final performance of the unit at the assumed conditions: 12,000 CFM at 4.62" SP, 1,398 RPM, 11.9 BHP at 175°F and 2000 feet altitude.
7. Size motor for cold startups and use a special high altitude motor if altitude exceeds 3300 feet.

Table 3 Maximum Safe Speed Correction Factors*

Temp.(°F)	0	70	100	150	175	200	225	250
FRP	1.00	1.00	1.00	0.98	0.95	0.91	0.82	0.70

* To correct maximum safe operating speeds (Table 2) for high temperatures, multiply those speeds by correction factors from Table 3.

Corrosion Resistance Guide

Temperature values shown are for immersion or condensate contact applications. Where temperature values are shown, resin is suitable for hood and duct type applications for the full operating temperature range of the product. See product specifications for materials of construction and maximum operating temperature limits.

Environment	Resin 430 Ambient F	Resin F300 Ambient F	F104 Ambient F	Environment	Resin 430 Ambient F	Resin F300 Ambient F	F104 Ambient F	Environment	Resin 430 Ambient F	Resin F300 Ambient F	F104 Ambient F
ACIDS				ALKALIES (Synthetic Veil)				SALTS (cont'd.)			
Acetic to 10%	180	200	210	Ammonium Bicarbonate to 50%	140	\$170	160	Sodium Ferricyanide	220	220	210
Acetic to 50%	90	150	180	Ammonium Carbonate	120	\$140	150	Sodium Fluoride	-	\$190	\$180
Acetic to 100%	-	NR	NR	Ammonium Hydroxide to 5%	\$90	\$180	\$180	Sodium Nitrate	220	220	210
Acrylic to 25%	-	100	100	Ammonium Hydroxide to 10%	\$50	\$170	\$180	Sodium Nitrite	220	220	NR
Benzene Sulfonic to 25%	180	210	190	Ammonium Hydroxide to 29%	NR	\$100	\$100	Sodium Silicate PH less than 1	160	210	NR
Benzene Sulfonic 25% up	90	210	NR	Barium Carbonate	180	\$240	210	Sodium Sulfate	180	240	210
Benzoic	250	220	210	Barium Hydroxide to 10%	-	\$170	150	Sodium Sulfite	-	220	210
Boric	180	220	210	Calcium Hydroxide to 15%	150	\$210	\$180	Stannic Chloride	*180	*220	*210
Butyric to 50%	150	150	210	Magnesium Carbonate	160	\$210	180	Stannous Chloride	*200	*220	*210
Butyric 50% up	150	150	210	Potassium Bicarbonate to 10%	90	\$170	\$150	Zinc Chloride	200	*220	*210
Carbonic	160	220	NR	Potassium Carbonate to 10%	90	\$190	\$150	Zinc Nitrate	180	220	210
Chloroacetic to 25%	NR	*180	*180	Potassium Hydroxide to 25%	NR	\$120	\$150	Zinc Sulfite	180	220	NR
Chloroacetic 25% to 50%	NR	*150	*120	Sodium Bicarbonate to 10%	140	\$210	\$180				
Chromic to 5%	100	110	160	Sodium Carbonate to 35%	90	\$190	\$180	SOLVENTS			
Chromic to 10% to 20%	-	NR	150	Sodium Hydroxide to 10%	NR	\$160	\$180	Acetone to 10%	NR	180	180
Citic	*200	*220	*210	Sodium Hydroxide to 25%	NR	\$180	\$180	Benzene	90	80	NR
Fluoboric	*\$90	*\$220	*\$210	Sodium Sulfide	90	\$220	\$210	Carbon Disulfide	NR	NR	NR
Gluosilicic up to 10%	\$100	\$180	\$180	Trisodium Phosphate to 50%	-	\$175	210	Carbon Tetrachloride	90 VAPOR	110	150
Formic up to 10%	200	150	180					Chlorobenzene	NR	NR	NR
Gluconic to 50%	120	180	180	SALTS				Ethyl Acetate	NR	NR	NR
Hydrobromic to 25%	*180	*170	*180	Aluminum Chloride	*120	*240	*210	Ethyl Chloride	90 VAPOR	NR	NR
Hydrochloric to 15%	*200	*210	*180	Aluminum Potassium Sulfate	160	240	210	Ethylene Dibromide	NR	NR	NR
Hydrocyanic to 10%	200	170	210	Aluminum Sulfate	250	240	210	Ethylene Glycol	250	220	210
Hydrofluoric to 10%	***\$100	***\$160	***\$160	Ammonium Chloride	*200	*220	*210	n-Heptane	120	210	210
Hydrofluorsilicic up to 10%	*\$100	*\$180	*\$180	Ammonium Nitrate	200	220	220	Hexane	-	150	160
Hypochlorous to 20%	90	110	NR	Ammonium Persulfate	150	200	180	Methyl Ethyl Ketone to 10%	NR	80	NR
Lactic	*200	*220	*210	Ammonium Persulfate, saturate	150	NR	NR	Naphtha	200	210	180
Maleic	170	210	210	Ammonium Sulfate	200	220	220	Naphthalene	130	220	210
Nitric to 5%	200	170	190	Aniline Sulfate to 25%	150	220	210	Tetrachloroethylene	NR	100	80
Nitric 5% to 20%	-	140	120	Aniline Sulfate, saturated	150	220	NR	Toluene	90	NR	80
Oleic	200	220	210	Barium Chloride	200	240	210	Xylene	90	80	80
Oxalic	*220	*220	*210	Barium Sulfide	NR	\$210	180				
Perchloric to 10%	NR	*150	*150	Calcium Chlorate	180	220	220	BLEACHES			
Phosphoric	*220	*\$210	*\$210	Calcium Chloride	250	240	220	Calcium Chlorate	180	220	220
Phosphoric, super	-	*\$210	*\$210	Calcium Sulfate	*200	*240	*210	Calcium Hypochlorite	100	NR	\$160
Phthalic Anhydride	*150	*210	*210	Copper Chloride	*250	*220	*210	Chlorine Dioxide up to 15%	-	160	*200
Picric to 10%	100	170	NR	Copper Cyanide	90	\$220	210	Chlorine Water	*125	*210	*200
Silicic	-	220	NR	Copper Fluoride	NR	\$170	NR	Hydrogen Peroxide to 30%	120	100	150
Stearic	200	220	210	Copper Sulfate	250	240	210	Sodium Chlorate	90	210	210
Sulfamic to 25%	160	180	NR	Ferric Chloride	*250	*220	*210	Sodium Hypochlorite to 15%	NR	125	\$180
Sulfuric to 25%	*200	*220	*210	Ferric Nitrate	170	220	210				
Sulfuric to 50%	*200	*200	*180	Ferric Sulfate	200	220	210	OTHERS			
Sulfuric to 70%	*150	*180	*160	Ferrous Chloride	*220	*220	*210	Alum. Chlorohydroxide to 50%	-	220	210
Sulfuric to 80%	NR	80	NR	Ferrous Nitrate	160	220	210	Ammonium Phosphate	150	210	210
Sulfurous to 10%	90	110	120	Ferrous Sulfate	220	220	210	Aqua Rega	NR	780	NR
Tannic	200	220	210	Lead Acetate	160	220	210	Detergents	120	170	150
Tartaric	200	220	210	Magnesium Chloride	220	240	210	Glycerine	200	220	210
Trichloroacetic to 50%	*90	*220	*200	Magnesium Hydroxide	-	\$210	210	Kerosene	120	210	180
				Magnesium Sulfate	200	210	210	Photographic Solutions	-	80	NR
ALCOHOLS				Mercuric Chloride	*210	*220	*210	Perchloroethylene	NR	100	80
Amyl	200	210	120	Mercurous Chloride	210	220	210	Sodium Tetraborate	180	\$210	180
Benzyl	NR	100	NR	Nickel Chloride	220	220	210	Sodium Tripolyphosphate	120	210	210
Butyl	190	150	120	Nickel Nitrate	220	220	210	Sodium Xylene Sulfonate	-	170	160
Ethyl	90	120	80	Nickel Sulfate	220	220	210	Sorbitol Solutions	180	220	160
Methyl	90	80	NR	Potassium Chloride	200	240	210	Urea	90	170	150
				Potassium Dichromate	200	220	210	Urea-Ammonium-Nitrate	-	120	120
GASES AND VAPORS				Potassium Ferricyanide	200	220	210	Fertilizer Fumes	100	120	150
Ammonia, Dry	90	170	100	Potassium Nitrate	200	220	210	Shell-D-D	NR	100	NR
Ammonia, Wet	90	NR	NR	Potassium Permanganate	150	210	210	Steam Vapor	180	210	180
Bromine, Wet	90	*100	NR	Potassium Persulfate	90	220	210				
Carbon Dioxide	250	250	250	Potassium Sulfate	200	240	210				
Carbon Monoxide	200	250	250	Silver Nitrate	200	220	210				
Chlorine, Dry	*200	*210	NR	Sodium Acetate	150	220	210				
Fluorine	-	NR	80	Sodium Bisulfate	200	220	210				
Hydrogen Fluoride, Vapor	*90	*\$180	*\$140	Sodium Chloride	200	240	180				
Hydrogen Sulfide to 5%	250	240	180	Sodium Chlorite to 10%	175	170	150				
Sulfur Dioxide, Dry	200	250	210	Sodium Cyanide	100	220	210				
Sulfur Dioxide, Wet	200	250	210	Sodium Dichromate	160	220	210				
Sulfur Trioxide, Wet	-	220	210								

Reference
C.R.G.13




NOTES: NR = Not Recommended S = Synthetic surfacing veil or mat required. Contact factory. "-" = No test data available
 * Special shaft and hardware required, contact factory.
 ** Special design considerations required (explosive environment), contact factory.
 *** Do not use HartKoate. Special shaft and hardware required, contact factory.
 For environments not shown, or when temperatures exceed the maximum listed, contact factory.
 Hydrocarbon fuel environments may require static grounding, contact factory.
 Do not use HartKoate (Alum. Oxide) with Hydrofluoric acid.



Hartzell Centrifugal Fan Classifications

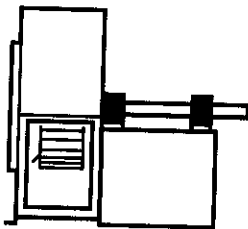
Hartzell Series 41 Fiberglass Backward Curved Centrifugal Fans, Type FA, 100% width, are designed and classified to perform within the centrifugal fan classification parameters established by AMCA Standard No. 2408; AMCA Publication 99. Hartzell Series 41 Fiberglass Backward Curved Centrifugal Fans, Type FA, 100%

width are available in Class I and II construction. Hartzell Series 41 in 66% width are available in Class I, II, and III construction. Series 41P are available in Class I construction only. See performance tables for specific ratings. These parameters are explained in the following table.

FAN CLASS	PERFORMANCE RANGE*	TABLE SHADING
I	5" @ 2300 FPM To 2 1/2" @ 3200 FPM	
II	8 1/2" @ 3000 FPM To 4 1/4" @ 4175 FPM	
III	13 1/2" @ 3780 FPM To 6 3/4" @ 5260 FPM	

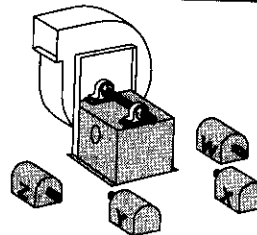
* At standard air conditions (70°F, 29.92 in. HG barometric pressure, .075 lbs./ft.3). Static pressure shown in inches of water; outlet velocity shown in feet per minute. Performance Ranges apply only to 100% width construction.

Centrifugal Fan Arrangements



Arrangement 1

Unit furnished with shaft and bearings, less motor and drive. Designed to be driven by a separately mounted motor. Impeller is overhung – two bearings on base. Temperature limitations: 250°F.

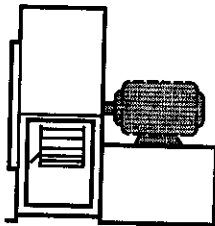


Motor Position Designation

Motor position designation is necessary when ordering the following for Arrangement 1 fans –

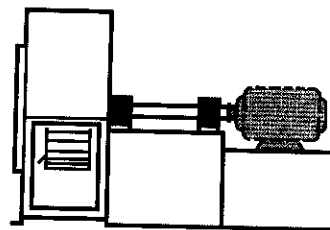
- 1 – V Belt Drive.
- 2 – Vibration Bases.
- 3 – Belt Guards.

Note: Location of motor is determined by facing the drive side of the fan and designating the motor position by letters W, X, Y, or Z. Consider discharge location and height when specifying.



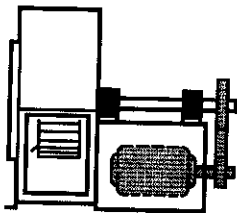
Arrangement 4

Direct drive packaged unit, wheel is overhung and attached to the shaft of the electric motor. No bearings on fan. Temperature limitations: 200°F.



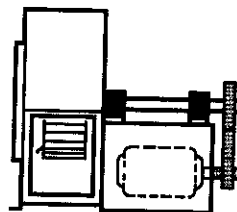
Arrangement 8

Direct coupled configuration with motor mounted to common fan base. Impeller is overhung and supported by two bearings on fan base. Temperature Limitations: 250°F.



Arrangement 9

Belt drive configuration with motor mounted on outside of bearing base support. Packaged unit, wheel is overhung, slide rail motor base permits easy adjustment of belt tension. Available on either left or right hand side of base (when facing drive end of shaft). Temperature limitations: 250°F.



Arrangement 10

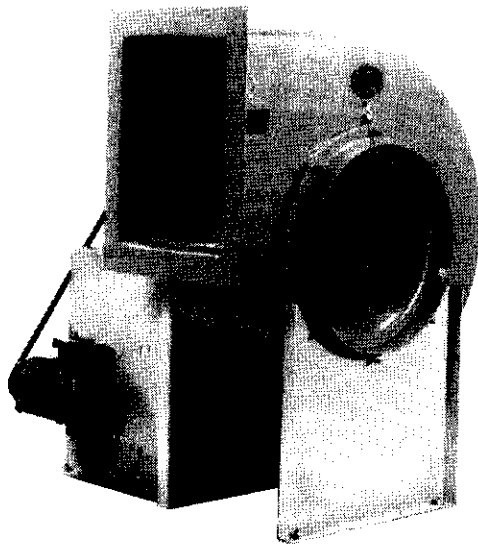
Belt drive configuration with motor mounted inside base. Packaged unit, wheel is overhung. Temperature limitations: 250°F.

Adapted from AMCA Standard 99-2404-03, *Drive Arrangements for Centrifugal Fans*, and AMCA Standard 99-2407-03, *Motor Positions for Belt or Chain Drive Centrifugal Fans*, with written permission from Air Movement and Control Association International, Inc.

Series 41 Backward Curved Centrifugal Fan, Type FA

Series 41 Hartzell Fiberglass Backward Curved Centrifugal Fans offers **non-overloading, high efficiency, low noise,** and economy for corrosive atmospheres. This fan is unique in the fan and blower industry. The fan incorporates the proven, highly efficient, backward curved, airfoil-bladed, solid fiberglass, Type FA wheel in a solid fiberglass housing. This design incorporates the airfoil centrifugal wheel, centrifugal fan housing, and inlet cone to produce a compact, highly efficient unit with low noise characteristics.

- **Applications** – Developed for compatible corrosive applications where it is advantageous to have fiberglass materials and have the motor out of the airstream with the versatility of a belt drive fan.
- **Performance** – Type FA fiberglass airfoil wheel with inlet cone and aerodynamically designed housing produces from **800 CFM to 90,000 CFM at pressures from free delivery to 18" W.G.** at high efficiencies with non-overloading horsepower, low noise, and low RPM. Maximum temperature capability is 250°F.

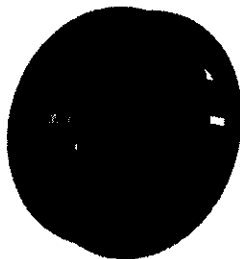


Series 41



Hartzell Fan, Inc. certifies that the Series 41, Fiberglass Backward Curved Centrifugal Fans, Type FA, shown herein are licensed to bear the AMCA seal for air and sound performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Sound Performance data is available upon request. Please contact the factory and ask for Engineering Publication #SD-160.



Type FA Wheel

Features

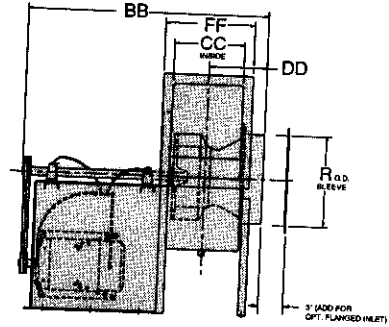
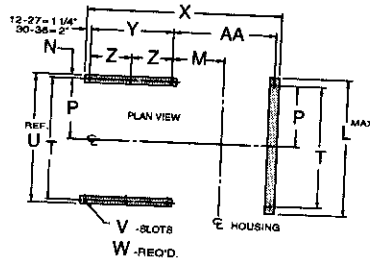
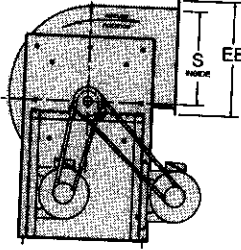
- **Sizes** – 12", 15", 18", 22", 24", 27", 30", 33", 36", 40", 44", 49", 54", and 60" wheel diameters. Available in Class I and II in 100% width and Class I, II, and III in 66% width. Available in Belt Drive Arrangements #1, #9, and #10, Direct Drive Arr. #4 and Direct Coupled Arr. #8. Contact Factory for Arr. #8 dimensions and for other arrangements.
- **FRP Materials** – Solid fiberglass wheel molded with Ashland Derakane 510-A corrosion resistant vinyl ester resin having a Class II flame spread rate of 30 or less. The housing and other standard FRP components are constructed of fiberglass and Ashland Hetron 693 corrosive resistant polyester resin having a Class I flame spread rate of 25 or less. No metal parts are exposed in the airstream. See Corrosion Resistance Guide on page 5 for resin characteristics. Other resins are available.
- **Type FA Wheel** – High efficiency, airfoil design with one-piece, solid fiberglass, construction. Tapered inlet side design efficiently moves large volumes of air at high pressures. Wheel has non-overloading horsepower characteristic curve.
- **Rotation and Discharge Positions** – Available in both clockwise and counter-clockwise rotations and in all standard discharge positions. Housing discharge position can be changed on fan sizes 12" through 36". Larger size housings are non-rotatable.
- **Easy Installation and Maintenance** – Motor, drives, and bearings are readily accessible for ease in wiring, installation, adjustment, and lubrication.
- **Shafts** – Shafts are turned ground and polished, keyed at both ends with fiberglass sleeve in the airstream and sized to operate well below critical speed.
- **Bearings** – Bearings are heavy duty, self-aligning, ball or roller type, in cast iron pillow block housings, selected for minimum L-50 Life of 250,000 hours, and include extended lubrication fittings as standard.
- **Standard Shaft Seal** – A fiberglass and neoprene shaft seal is placed where the shaft leaves the housing along with a neoprene shaft slinger between the seal and wheel. Seal is not gas tight.
- **Hardware** – Airstream hardware is Type 304 stainless steel and encapsulated.
- **Motor Out of the Airstream** – Exterior mounting of Drip-Proof Protected motor on an adjustable motor slide base in belt drive models is standard. Motors can be furnished as TEFC, Mill and Chemical Duty, or to specifications upon request. Motor HP and frame size limits are identified in Dimensions and Material Specifications table.
- **Drives (Belt Drive Fans)** – V-Belt Drives are oversized for long life and continuous duty and are fixed pitch as standard option. Variable pitch drives are available upon request. Belts are oil, heat, and static resistant type.
- **Balancing** – The fan is electronically statically and dynamically balanced to the requirements of Fan Application Category BV-3 of AMCA/ANSI Std. 204-96. All fans receive an inspection prior to shipment and, whenever possible, a vibration test.
- **Flanged Duct Connections** – Outlet flange is standard, inlet flange is optional. Flange bolt holes are optional.
- **Bases** – Heavy gauge, welded, hot rolled steel with epoxy coating is standard.
- **Options and Accessories** – See pages 22 and 23.
- **Spark Resistant Construction and Protective Coatings** – Spark resistant construction for fiberglass equipment is optional, and for abrasive environments or extremely corrosive environments, special construction is available, see page 23.

Dimensions – Arrangements 1, 9 or 10

SERIES 41, Type FA

Sizes 12" Through 36", Rotatable Housing

Standard Construction – Classes I, II and III, Maximum Temperature – 250°F.



Principal Dimensions (Inches) – Sizes 12" – 36"

Fan Size	A	B		C	D	E	F	G	H	J	L	M		N
		Class I/II	Class III									100% Width	66% Width	
12	18 ¹ / ₂	15 ¹ / ₂	15 ¹ / ₂	13	11 ¹ / ₂	12 ¹ / ₄	20 ³ / ₈	10 ³ / ₄	10	11 ¹ / ₁₆	18 ³ / ₄	6 ²⁹ / ₃₂	6 ³ / ₈	1
15	21 ¹ / ₂	18 ⁵ / ₈	19 ⁵ / ₈	16 ³ / ₁₆	15 ⁷ / ₈	16 ¹¹ / ₁₆	25 ¹ / ₂	14 ¹⁵ / ₁₆	14	13 ¹ / ₁₆	21 ³ / ₄	8 ³ / ₈	7 ¹¹ / ₁₆	1
18	24 ¹ / ₄	21 ¹⁵ / ₁₆	22 ⁷ / ₈	19	18 ⁷ / ₁₆	19 ⁹ / ₁₆	28 ¹ / ₂	17 ⁵ / ₁₆	16 ³ / ₁₆	15 ¹ / ₁₆	28 ³ / ₄	11 ³ / ₁₆	10 ³ / ₈	1 ¹⁵ / ₁₆
22	30	26 ¹ / ₄	27 ³ / ₁₆	21 ¹ / ₈	22 ¹¹ / ₁₆	24 ¹ / ₁₆	34 ³ / ₈	21 ⁵ / ₁₆	19 ⁵ / ₁₆	18 ⁹ / ₁₆	29 ¹ / ₈	11 ¹ / ₈	10 ¹ / ₈	1
24	33 ¹⁵ / ₁₆	28 ⁵ / ₁₆	29 ¹ / ₄	23	24 ⁷ / ₁₆	25 ¹⁵ / ₁₆	37 ³ / ₁₆	22 ¹⁵ / ₁₆	21 ⁷ / ₁₆	19 ¹⁵ / ₁₆	31	11 ⁷ / ₈	10 ³ / ₄	1
27	32 ⁵ / ₈	32 ¹ / ₂	32 ¹ / ₂	24	27 ⁷ / ₁₆	29 ¹ / ₈	40 ⁹ / ₁₆	25 ¹³ / ₁₆	24 ¹ / ₈	22 ⁷ / ₁₆	33 ¹ / ₈	13 ³ / ₁₆	11 ¹⁵ / ₁₆	1
30	37	35	35	28 ¹ / ₄	29 ⁹ / ₁₆	31 ³ / ₈	43 ⁷ / ₁₆	27 ³ / ₄	25 ¹⁵ / ₁₆	24 ¹ / ₁₆	38 ³ / ₈	17	15 ⁵ / ₈	2 ¹ / ₈
33	40	38 ³ / ₁₆	38 ³ / ₁₆	28 ¹¹ / ₁₆	33 ¹ / ₄	35 ¹ / ₄	47 ⁹ / ₁₆	31 ¹ / ₄	29 ¹ / ₄	27 ³ / ₁₆	38 ³ / ₈	18 ¹ / ₂	16 ⁵ / ₈	2 ¹ / ₈
36	42	41 ⁵ / ₁₆	41 ⁵ / ₁₆	31 ⁵ / ₁₆	35 ¹ / ₁₆	37 ¹ / ₄	51 ¹¹ / ₁₆	32 ⁷ / ₈	30 ¹¹ / ₁₆	28 ¹ / ₂	42 ³ / ₄	19 ¹ / ₄	17 ⁵ / ₈	2 ¹ / ₈

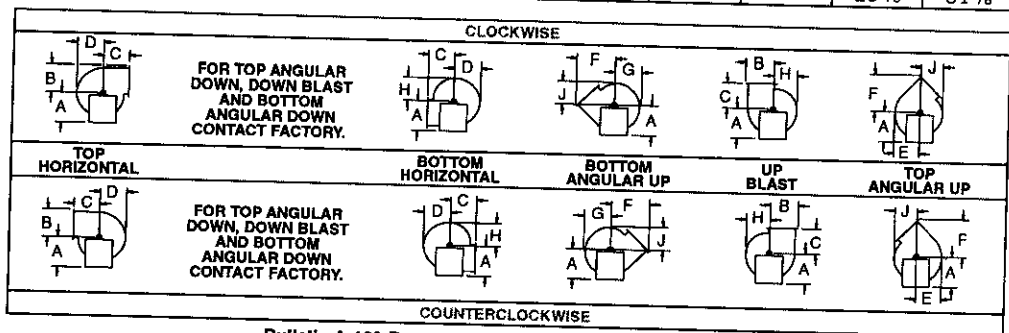
Fan Size	P	R	S	T	U	V	W	X		Y	Z	AA	
								100% Width	66% Width			100% Width	66% Width
12	8 ¹ / ₈	12 ¹ / ₄	12 ⁷ / ₈	16 ¹ / ₄	18 ¹ / ₄	11 ¹ / ₁₆ x 1 ¹ / ₁₆	6	28 ¹ / ₈	26 ³¹ / ₃₂	12 ³ / ₄	–	13 ¹ / ₈	11 ³¹ / ₃₂
15	9 ¹ / ₈	16 ¹ / ₂	16 ¹ / ₈	18 ¹ / ₄	20 ¹ / ₄	11 ¹ / ₁₆ x 1 ¹ / ₁₆	6	34	32 ³ / ₄	15 ³ / ₄	–	16	14 ⁹ / ₁₆
18	12 ¹¹ / ₁₆	19 ¹ / ₂	19 ³ / ₈	25 ⁵ / ₈	27 ¹ / ₄	11 ¹ / ₁₆ x 1 ¹ / ₁₆	8	41	39 ¹ / ₂	18 ³ / ₄	9 ³ / ₈	20	18 ¹ / ₄
22	12 ¹¹ / ₁₆	23 ⁷ / ₈	23 ⁵ / ₈	25 ³ / ₈	27 ³ / ₈	11 ¹ / ₁₆ x 1 ¹ / ₁₆	8	44 ¹ / ₁₆	42 ³ / ₈	20 ¹ / ₄	10 ¹ / ₈	21 ⁹ / ₁₆	19 ¹ / ₂
24	12 ¹¹ / ₁₆	25 ⁷ / ₈	25 ³ / ₄	25 ³ / ₈	27 ³ / ₈	11 ¹ / ₁₆ x 1 ¹ / ₁₆	8	47 ⁷ / ₈	46	22 ¹ / ₂	11 ¹ / ₄	23 ¹ / ₈	20 ⁷ / ₈
27	11	28 ³ / ₄	29	22	24	11 ¹ / ₁₆ x 1 ¹ / ₁₆	8	50 ⁹ / ₁₆	48 ³ / ₁₆	22 ¹ / ₂	11 ¹ / ₄	25 ³ / ₁₆	23 ⁵ / ₁₆
30	16 ⁷ / ₈	31 ³ / ₁₆	31 ¹ / ₂	33 ³ / ₄	38	13 ¹ / ₁₆ x 1 ¹ / ₄	8	57 ¹ / ₁₆	54 ³ / ₈	22 ³ / ₄	11 ³ / ₈	30 ¹³ / ₁₆	28 ¹ / ₈
33	16 ⁷ / ₈	34 ³ / ₁₆	34 ¹¹ / ₁₆	33 ³ / ₄	38	13 ¹ / ₁₆ x 1 ¹ / ₄	8	62 ⁷ / ₁₆	59 ⁷ / ₁₆	25 ³ / ₄	12 ⁷ / ₈	33 ³ / ₁₆	30 ³ / ₁₆
36	16 ⁷ / ₈	37 ³ / ₁₆	37 ¹³ / ₁₆	33 ³ / ₄	38	13 ¹ / ₁₆ x 1 ¹ / ₄	8	64 ¹¹ / ₁₆	61 ⁷ / ₁₆	25 ³ / ₄	12 ⁷ / ₈	35 ⁷ / ₁₆	32 ³ / ₁₆

Fan Size	BB		CC		DD		EE				FF			
	100% Width	66% Width	100% Width	66% Width	100% Width	66% Width	100% Width		66% Width		100% Width		66% Width	
	Class I/II	Class III	Class I/II	Class III	Class I/II	Class III	Class I/II	Class III	Class I/II	Class III	Class I/II	Class III	Class I/II	Class III
12	33 ¹ / ₈	31 ³¹ / ₃₂	9 ⁹ / ₃₂	8 ⁵ / ₈	8	7 ⁷ / ₁₆	18 ¹ / ₈	18 ¹ / ₈	18 ¹ / ₈	18 ¹ / ₈	14 ³ / ₈	14 ³ / ₈	13 ¹ / ₂	13 ¹ / ₂
15	38 ³ / ₄	37 ³ / ₁₆	11 ¹¹ / ₁₆	10 ⁹ / ₁₆	9 ⁹ / ₁₆	8 ⁹ / ₁₆	21 ¹ / ₁₆	23 ¹ / ₈	21 ¹ / ₁₆	23 ¹ / ₈	16 ⁵ / ₈	18 ¹¹ / ₁₆	15 ¹ / ₄	17 ⁹ / ₁₆
18	45 ¹ / ₄	43 ¹⁵ / ₁₆	14	12 ⁵ / ₁₆	10 ¹ / ₂	9 ⁵ / ₈	24 ¹ / ₂	26 ³ / ₈	24 ¹ / ₂	26 ³ / ₈	19 ¹ / ₁₆	21	17 ³ / ₈	19 ⁹ / ₁₆
22	49 ⁵ / ₈	47 ⁵ / ₁₆	17 ¹ / ₈	15 ¹ / ₁₆	12 ¹ / ₈	11	28 ³ / ₄	30 ⁵ / ₈	28 ³ / ₄	30 ⁵ / ₈	22 ¹ / ₄	24 ¹ / ₈	20 ³ / ₁₆	22 ¹ / ₁₆
24	54 ¹ / ₈	51 ¹¹ / ₁₆	18 ⁵ / ₈	16 ³ / ₈	12 ¹⁵ / ₁₆	11 ¹¹ / ₁₆	30 ¹³ / ₁₆	32 ³ / ₄	30 ¹³ / ₁₆	26 ³ / ₈	23 ¹¹ / ₁₆	25 ⁵ / ₈	21 ⁷ / ₁₆	23 ³ / ₈
27	56 ³ / ₄	53 ¹³ / ₁₆	21	18 ¹ / ₂	14 ¹ / ₈	12 ⁷ / ₈	36	36	30 ¹³ / ₁₆	26 ³ / ₈	23 ¹¹ / ₁₆	25 ⁵ / ₈	21 ⁷ / ₁₆	23 ³ / ₈
30	63 ¹ / ₁₆	60 ³ / ₈	22 ¹³ / ₁₆	20 ¹ / ₁₆	15 ¹ / ₁₆	13 ¹¹ / ₁₆	38 ¹ / ₂	38 ¹ / ₂	36	36	28	28	25 ¹ / ₂	25 ¹ / ₂
33	69 ¹ / ₈	65 ⁷ / ₁₆	25 ¹ / ₈	22 ¹ / ₈	16 ¹ / ₄	14 ³ / ₄	41 ¹¹ / ₁₆	41 ¹¹ / ₁₆	38 ¹ / ₂	38 ¹ / ₂	29 ¹³ / ₁₆	29 ¹³ / ₁₆	27 ¹ / ₁₆	27 ¹ / ₁₆
36	72 ¹¹ / ₁₆	69 ⁷ / ₁₆	27 ³ / ₈	24 ¹ / ₈	17 ³ / ₈	15 ³ / ₄	44 ¹³ / ₁₆	44 ¹³ / ₁₆	41 ¹¹ / ₁₆	41 ¹¹ / ₁₆	34 ³ / ₈	34 ³ / ₈	29 ¹ / ₈	29 ¹ / ₈

Dimensions and specifications are subject to change. Clockwise Rotation is shown. Certified prints are available.

Fan Discharges

TAD, BAD, and DB discharge must have discharge extension. Contact factory.



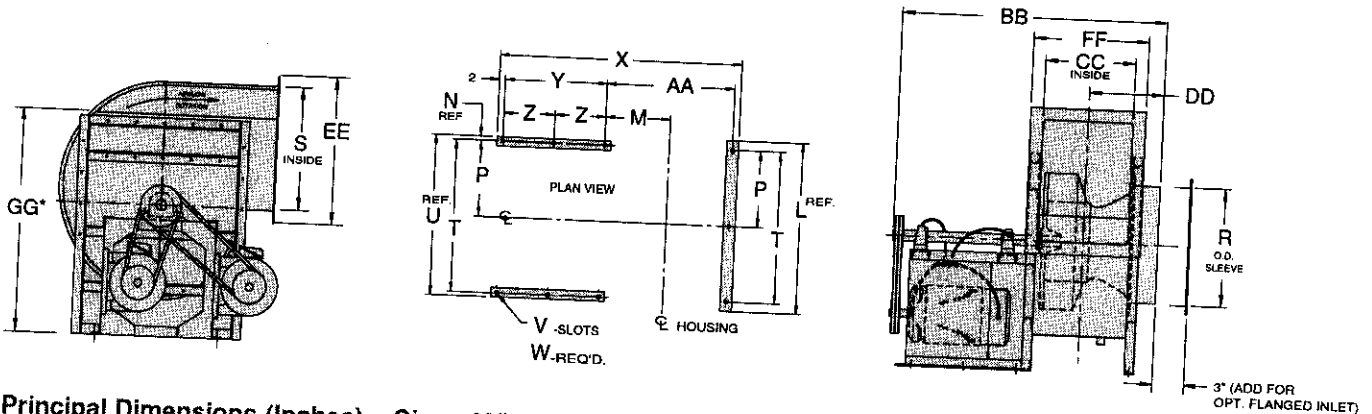
Bulletin A-160-D

Dimensions – Arrangements 1, 9 or 10

SERIES 41, Type FA

Sizes 40" Through 60", Fixed Housing

Standard Construction – Classes I, II and III, Maximum Temperature – 250°F.



Principal Dimensions (Inches) – Sizes 40" – 60"

Fan Size	A				B	C	D	E	F	G	H	J	L	M	
	TAU-TH	TAD	BH	BAU-UB										100% Width	66% Width
40	47	47	47	47	46 ^{13/16}	35 ^{5/16}	40 ^{1/4}	42 ^{3/4}	58 ^{13/16}	37 ^{3/4}	35 ^{1/4}	32 ^{3/4}	55 ^{1/4}	21 ^{3/16}	19 ^{3/8}
44	51 ^{1/4}	51 ^{1/4}	51 ^{1/4}	51 ^{1/4}	52 ^{3/8}	39 ^{11/16}	45 ^{1/2}	48 ^{1/4}	65 ^{1/2}	42 ^{3/4}	40	37 ^{3/16}	59 ^{5/8}	22 ^{7/8}	20 ^{7/8}
49	56 ^{1/2}	56 ^{1/2}	56 ^{1/2}	56 ^{1/2}	57 ^{1/8}	43 ^{11/16}	49 ^{1/16}	52 ^{1/8}	71 ^{11/16}	46	42 ^{5/16}	39 ^{7/8}	71 ^{1/2}	24 ^{9/16}	22 ^{3/8}
54	54 ^{1/4}	47 ^{3/4}	64	61	62 ^{7/8}	48 ^{3/8}	54 ^{3/8}	57 ^{3/4}	78 ^{11/16}	51	47 ^{9/16}	44 ^{1/4}	69 ^{5/8}	27 ^{3/8}	24 ^{5/16}
60	60	52 ^{1/2}	70	67 ^{1/2}	69 ^{1/16}	53 ^{1/2}	59 ^{7/8}	63 ^{3/4}	86 ^{11/16}	56 ^{1/8}	52 ^{3/8}	48 ^{5/8}	75 ^{1/2}	29 ^{5/8}	26 ^{5/16}

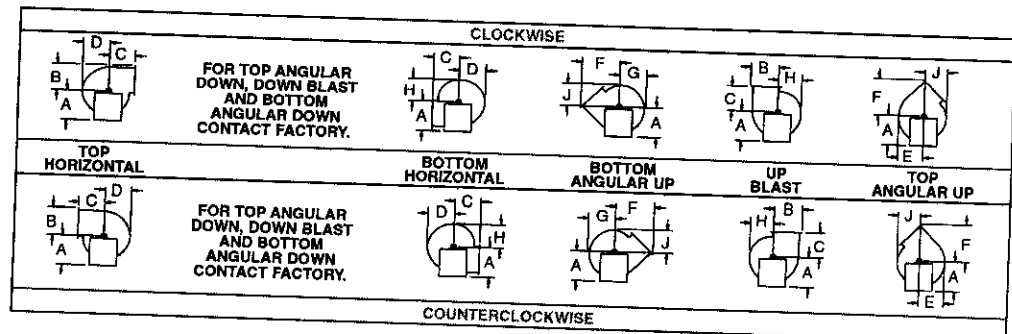
Fan Size	N	P	R	S	T	U	V	W	X		Y	Z	AA	
									100% Width	66% Width			100% Width	66% Width
40	2	22	42 ^{5/8}	43 ^{9/16}	44	48	13 ^{1/16} X 1 ^{1/4}	9	70 ^{1/8}	66 ^{1/2}	27 ^{3/4}	13 ^{7/8}	38 ^{7/8}	35 ^{1/4}
44	2	22	47 ^{1/8}	47 ^{7/8}	44	48	13 ^{1/16} X 1 ^{1/4}	9	73 ^{7/16}	69 ^{7/16}	27 ^{3/4}	13 ^{7/8}	42 ^{9/16}	38 ^{3/16}
49	2 ^{1/2}	22 ^{1/2}	51 ^{7/8}	52 ^{5/8}	45	50	13 ^{1/16} X 1 ^{1/4}	9	81 ^{7/8}	77 ^{7/16}	32 ^{3/4}	16 ^{3/8}	45 ^{5/8}	41 ^{3/16}
54	2	27	57 ^{5/16}	58 ^{3/8}	54	58	13 ^{1/16} X 1 ^{1/4}	9	86 ^{1/16}	81 ^{1/8}	32	16	50 ^{9/16}	45 ^{5/8}
60	2	27	63 ^{5/16}	64 ^{9/16}	54	58	13 ^{1/16} X 1 ^{1/4}	9	90 ^{1/2}	85 ^{1/16}	32	16	55	49 ^{9/16}

Fan Size	BB		CC		DD		EE	FF		GG*
	100% Width	66% Width	100% Width	66% Width	100% Width	66% Width		100% Width	66% Width	
40	78 ^{13/16}	75 ^{3/16}	31 ^{3/8}	27 ^{3/4}	19 ^{1/2}	17 ^{11/16}	50 ^{5/16}	38 ^{3/8}	34 ^{3/4}	-
44	82 ^{7/16}	78 ^{7/16}	34 ^{11/16}	30 ^{11/16}	21 ^{1/4}	19 ^{1/4}	56 ^{7/8}	43 ^{11/16}	39 ^{11/16}	-
49	90 ^{7/8}	86 ^{7/16}	38 ^{1/8}	33 ^{11/16}	22 ^{15/16}	20 ^{3/4}	61 ^{5/8}	47 ^{1/8}	42 ^{11/16}	-
54	94 ^{13/16}	89 ^{7/8}	42 ^{5/16}	37 ^{3/8}	25	22 ^{9/16}	67 ^{3/8}	51 ^{5/16}	46 ^{3/8}	98 ^{1/4}
60	99 ^{5/16}	93 ^{7/8}	46 ^{3/4}	41 ^{5/16}	27 ^{1/4}	24 ^{9/16}	73 ^{9/16}	55 ^{3/4}	50 ^{5/16}	107 ^{3/8}

Dimensions and specifications are subject to change. Clockwise Rotation is shown. Certified prints are available.

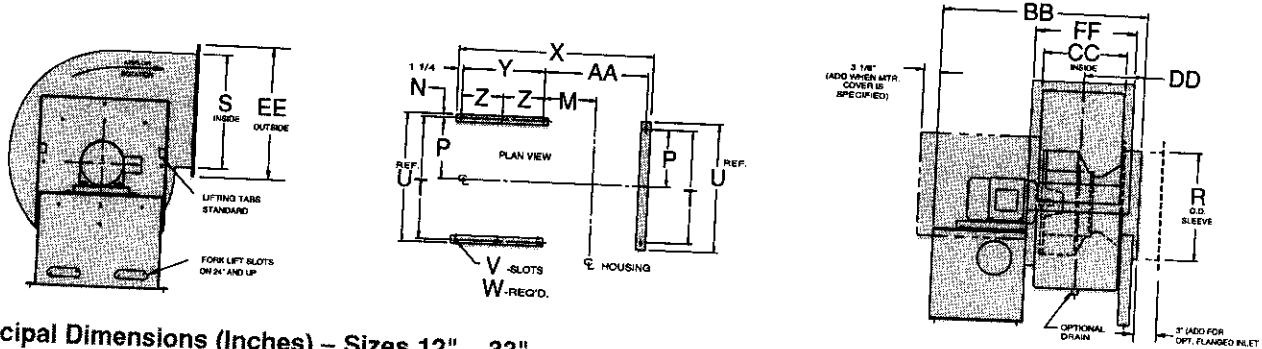
Fan Discharges

TAD, BAD, and DB discharge must have discharge extension. Contact factory.
 * For top angular up discharge on 54" and 60" only, dimension is for location of removable split scroll to allow for shipping. Assembly required in field.



Dimensions - Arrangement 4

SERIES 41, Type FA
 Sizes 12" Through 33", Rotatable Housing
 Standard Construction - Classes I, II and III, Maximum Temperature - 200°F.



Principal Dimensions (Inches) - Sizes 12" - 33"

Fan Size	A	B		C	D	E	F	G	H	J	M		N
		Class VII	Class III								100% Width	66% Width	
12	16	15 ¹ / ₂	15 ¹ / ₂	13	11 ¹ / ₂	12 ¹ / ₄	20 ¹ / ₈	10 ³ / ₄	10	11 ¹ / ₁₆	8 ⁷ / ₁₆	7 ⁷ / ₈	5 ⁹ / ₈
15	18 ³ / ₄	18 ⁵ / ₈	19 ⁵ / ₈	16 ³ / ₁₆	15 ⁷ / ₈	16 ¹¹ / ₁₆	25 ¹ / ₂	14 ¹⁵ / ₁₆	14	13 ¹ / ₁₆	9 ¹ / ₁₆	9	5 ⁹ / ₈
18	22	21 ¹⁵ / ₁₆	22 ⁷ / ₈	19	18 ⁷ / ₁₆	19 ⁹ / ₁₆	28 ¹ / ₂	17 ⁵ / ₁₆	16 ³ / ₁₆	15 ¹ / ₁₆	10 ¹⁵ / ₁₆	10 ¹ / ₈	5 ⁹ / ₈
22	26 ³ / ₄	26 ¹ / ₄	27 ³ / ₁₆	21 ¹ / ₈	22 ¹¹ / ₁₆	24 ¹ / ₁₆	34 ³ / ₈	21 ⁵ / ₁₆	19 ¹⁵ / ₁₆	18 ⁹ / ₁₆	12 ⁷ / ₈	11 ⁹ / ₁₆	5 ⁹ / ₈
24	28 ¹ / ₂	28 ⁵ / ₁₆	29 ¹ / ₄	23	24 ⁷ / ₁₆	25 ¹⁵ / ₁₆	37 ³ / ₁₆	22 ¹⁵ / ₁₆	21 ⁷ / ₁₆	19 ¹⁵ / ₁₆	13 ³ / ₈	12 ¹ / ₄	7 ⁹ / ₈
27	32 ¹ / ₄	32 ¹ / ₂	32 ¹ / ₂	24	27 ⁷ / ₁₆	29 ¹ / ₈	40 ³ / ₁₆	25 ¹³ / ₁₆	24 ¹ / ₈	22 ⁷ / ₁₆	14 ⁵ / ₈	13 ³ / ₈	7 ⁹ / ₈
30	34 ³ / ₄	35	35	28 ¹ / ₂	29 ⁹ / ₁₆	31 ³ / ₈	43 ⁷ / ₁₆	27 ³ / ₄	25 ¹³ / ₁₆	24 ¹ / ₁₆	15 ¹¹ / ₁₆	14 ⁵ / ₁₆	7 ⁹ / ₈
33	38	38 ³ / ₁₆	38 ³ / ₁₆	28 ¹¹ / ₁₆	33 ¹ / ₄	35 ¹ / ₄	47 ⁹ / ₁₆	31 ¹ / ₄	29 ¹ / ₄	27 ³ / ₁₆	16 ¹³ / ₁₆	15 ⁵ / ₁₆	7 ⁹ / ₈

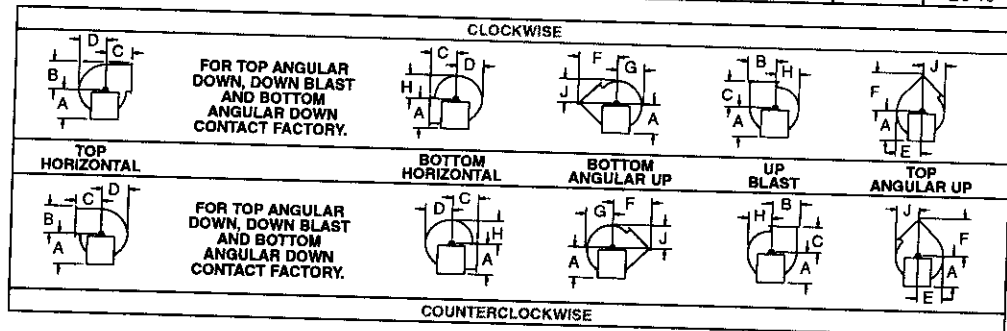
Fan Size	P	R	S	T	U	V	W	X		Y	Z	AA	
								100% Width	66% Width			100% Width	66% Width
12	9 ¹ / ₈	12 ¹ / ₄	12 ⁷ / ₈	18 ¹ / ₄	19 ¹ / ₂	9 ¹ / ₁₆ X 1 ¹ / ₁₆	6	26 ⁷ / ₁₆	25 ⁹ / ₃₂	9 ¹ / ₂	-	14 ¹¹ / ₁₆	13 ¹⁷ / ₃₂
15	10 ³ / ₄	16 ¹ / ₂	16 ¹ / ₈	21 ¹ / ₂	22 ³ / ₄	9 ¹ / ₁₆ X 1 ¹ / ₁₆	6	36	34 ⁵ / ₈	16 ¹ / ₂	-	17 ¹ / ₄	15 ¹³ / ₁₆
18	12 ³ / ₈	19 ¹ / ₂	19 ³ / ₈	24 ³ / ₄	27 ³ / ₄	9 ¹ / ₁₆ X 1 ¹ / ₁₆	6	40 ⁵ / ₁₆	39 ¹ / ₄	19	-	19 ¹¹ / ₁₆	18
22	14 ¹ / ₂	23 ⁷ / ₈	23 ⁵ / ₈	29	30 ¹ / ₄	9 ¹ / ₁₆ X 1 ¹ / ₁₆	6	44 ¹ / ₄	42 ³ / ₁₆	19	-	23	21
24	15 ¹ / ₈	25 ¹ / ₈	25 ³ / ₄	31 ³ / ₄	33 ¹ / ₂	11 ¹ / ₁₆ X 1 ³ / ₁₆	6	45 ¹³ / ₁₆	43 ⁵ / ₈	19	-	24 ⁹ / ₁₆	22 ³ / ₈
27	17 ⁵ / ₈	28 ³ / ₄	29	35 ¹ / ₄	37	11 ¹ / ₁₆ X 1 ³ / ₁₆	6	48 ¹ / ₂	46	19	-	27 ¹ / ₄	24 ³ / ₄
30	18 ⁷ / ₈	31 ³ / ₁₆	31 ¹ / ₂	37 ³ / ₄	39 ¹ / ₂	11 ¹ / ₁₆ X 1 ³ / ₁₆	8	52 ⁵ / ₁₆	50 ¹ / ₄	21 ¹ / ₂	10 ³ / ₄	29 ³ / ₁₆	26 ¹ / ₂
33	20 ⁵ / ₈	34 ³ / ₁₆	34 ¹¹ / ₁₆	41 ¹ / ₄	43	11 ¹ / ₁₆ X 1 ³ / ₁₆	8	57 ¹ / ₂	54 ⁹ / ₁₆	23 ³ / ₄	11 ⁷ / ₈	31 ¹ / ₂	28 ⁹ / ₁₆

Fan Size	BB		CC		DD		EE				FF			
	100% Width	66% Width	100% Width	66% Width	100% Width	66% Width	100% Width		66% Width		100% Width		66% Width	
	Class VII	Class III	Class VII	Class III	Class VII	Class III	Class VII	Class III	Class VII	Class III	Class VII	Class III	Class VII	Class III
12	27 ³ / ₁₆	26 ¹ / ₃₂	9 ⁹ / ₃₂	8 ⁵ / ₈	8	7 ⁷ / ₁₆	18 ¹ / ₈	18 ¹ / ₈	18 ¹ / ₈	18 ¹ / ₈	14 ³ / ₈	14 ³ / ₈	13 ¹ / ₂	13 ¹ / ₂
15	36 ¹¹ / ₁₆	35 ¹ / ₄	11 ¹¹ / ₁₆	10 ⁵ / ₁₆	9 ¹ / ₄	8 ¹ / ₂	21 ¹ / ₁₆	23 ³ / ₈	21 ¹ / ₁₆	23 ³ / ₈	16 ⁵ / ₈	18 ¹¹ / ₁₆	15 ¹ / ₄	17 ⁵ / ₁₆
18	41 ⁵ / ₈	39 ³ / ₄	14	12 ⁵ / ₁₆	10 ⁷ / ₁₆	9 ³ / ₈	24 ¹ / ₂	26 ³ / ₈	24 ¹ / ₂	26 ³ / ₈	19 ¹ / ₁₆	21	17 ³ / ₈	19 ⁵ / ₁₆
22	45 ¹ / ₈	42 ¹³ / ₁₆	17 ¹ / ₈	15 ¹ / ₁₆	12	11	28 ³ / ₄	30 ⁵ / ₈	28 ³ / ₄	30 ⁵ / ₈	22 ¹ / ₄	24 ¹ / ₈	20 ³ / ₁₆	22 ¹ / ₁₆
24	46 ⁷ / ₁₆	44 ³ / ₁₆	18 ⁵ / ₈	16 ³ / ₈	12 ¹³ / ₁₆	11 ¹¹ / ₁₆	30 ¹³ / ₁₆	32 ³ / ₄	30 ¹³ / ₁₆	32 ³ / ₄	23 ¹¹ / ₁₆	25 ⁵ / ₈	21 ⁷ / ₁₆	23 ³ / ₈
27	49	46 ¹ / ₂	21	18 ¹ / ₂	14 ¹ / ₈	12 ⁷ / ₈	36	36	36	36	28	28	25 ¹ / ₂	25 ¹ / ₂
30	53 ¹ / ₂	50 ³ / ₄	22 ¹³ / ₁₆	20 ¹ / ₁₆	15 ¹ / ₁₆	13 ¹¹ / ₁₆	38 ¹ / ₂	38 ¹ / ₂	38 ¹ / ₂	38 ¹ / ₂	29 ¹³ / ₁₆	29 ¹³ / ₁₆	27 ¹ / ₁₆	27 ¹ / ₁₆
33	58 ¹ / ₁₆	52 ¹³ / ₁₆	25 ¹ / ₈	22 ¹ / ₈	16 ¹ / ₄	14 ³ / ₄	41 ¹¹ / ₁₆	41 ¹¹ / ₁₆	41 ¹¹ / ₁₆	41 ¹¹ / ₁₆	32 ¹ / ₈	32 ¹ / ₈	29 ¹ / ₈	29 ¹ / ₈

Dimensions and specifications are subject to change. Clockwise rotation is shown. Certified prints are available.

Fan Discharges

TAD, BAD, and DB discharge must have discharge extension. Contact factory.



Material Specifications/Weights

Series 41

Class	Fan Size	Flanges				Shaft & Bearings		FA Type Wheel WR ² (Lbs.-Ft. ²)	Motor Frames			Installation Weights (Lbs. Less Motor)		
		Inlet		Outlet					Minimum Arr. #4	Maximum Arr. #4	Maximum Arr. #9 & #10	Arr. #4	Arr. #9 & #10	
		Thickness	Holes	Thickness	Holes 100% & 66%	Size	Type							
I	12	1/8	7/16 X 8	1/4	7/16 X 10	1 3/16	P3U219	1.6	56	184T	182T	160	193	
	15	3/16	7/16 X 8	1/4	7/16 X 14	1 3/16	P3U219	4.7	143T	215T	184T	235	230	
	18	3/16	7/16 X 8	1/4	7/16 X 14	1 7/16	P3U223	11	143T	256T	213T	350	355	
	22	1/4	7/16 X 8	1/4	7/16 X 18	1 7/16	P3U223	29	182T	286T	215T	490	490	
	24	1/4	7/16 X 8	1/4	7/16 X 18	1 7/16	P3U223	29	182T	286T	215T	490	490	
	27	5/16	7/16 X 8	3/8	7/16 X 18	2 3/16	P3U235	78	182T	286T	254T	580	605	
	30	5/16	7/16 X 8	3/8	7/16 X 18	2 7/16	P3U239	119	213T	326T	254T	660	770	
	33	5/16	7/16 X 8	3/8	7/16 X 22	2 7/16	P3U239	160	254T	365T	256T	935	975	
	36	5/16	7/16 X 8	3/8	7/16 X 22	2 11/16	P3U243	251	—	—	286T	—	1145	1185
	40	5/16	7/16 X 8	1/2	7/16 X 26	2 15/16	P3U247	423	—	—	324T	—	—	1550
	44	3/8	7/16 X 8	1/2	7/16 X 30	2 15/16	P3U247	717	—	—	324T	—	—	2015
	49	3/8	9/16 X 16	1/2	7/16 X 34	2 15/16	P3U247	1180	—	—	324T	—	—	2515
54	7/16	9/16 X 16	1/2	7/16 X 34	2 15/16	PB22447	1810	—	—	326T	—	—	2940	
60	7/16	9/16 X 16	1/2	7/16 X 38	2 15/16	PB22447	2875	—	—	364T	—	—	3340	
II	12	1/8	7/16 X 8	1/4	7/16 X 10	1 7/16	P3U223	1.6	56	184T	184T	160	202	
	15	3/16	7/16 X 8	1/4	7/16 X 14	1 7/16	P3U223	4.7	143T	215T	215T	235	235	
	18	3/16	7/16 X 8	1/4	7/16 X 14	1 11/16	P3U227	11	143T	256T	256T	350	355	
	22	1/4	7/16 X 8	1/4	7/16 X 18	1 11/16	PB22427	29	182T	286T	256T*	490	505	
	24	1/4	7/16 X 8	1/4	7/16 X 18	1 11/16	PB22427	29	182T	286T	286T*	580	625	
	27	5/16	9/16 X 8	3/8	7/16 X 18	2 3/16	PB22435	78	182T	286T	286T*	660	800	
	30	5/16	9/16 X 8	3/8	7/16 X 18	2 7/16	PB22439	119	213T	326T	286T*	935	995	
	33	5/16	9/16 X 8	3/8	7/16 X 22	2 7/16	PB22439	160	254T	365T	326T*	1145	1195	
	36	5/16	9/16 X 8	3/8	7/16 X 22	2 11/16	PB22443	251	—	—	326T*	—	—	1620
	40	5/16	9/16 X 8	1/2	7/16 X 26	2 15/16	PB22447	423	—	—	365T*	—	—	2060
	44	3/8	9/16 X 8	1/2	7/16 X 30	2 15/16	PB22447	717	—	—	365T*	—	—	2560
	49	3/8	11/16 X 16	1/2	7/16 X 34	2 15/16	PB22447	1180	—	—	405T*	—	—	3040
54	7/16	11/16 X 16	1/2	7/16 X 34	2 15/16	PB22447	1810	—	—	405T*	—	—	3480	
60	7/16	11/16 X 16	1/2	7/16 X 38	2 15/16	PB22447	2875	—	—	405T*	—	—	3670	
III	12	1/8	9/16 X 8	1/4	7/16 X 10	1 11/16	P3U227	1.6	56	184T	184T	160	213	
	15	3/16	9/16 X 8	1/4	7/16 X 14	1 11/16	P3U227	4.7	143T	215T	215T*	235	250	
	18	3/16	9/16 X 8	1/4	7/16 X 14	1 15/16	P3U231	11	143T	256T	256T*	350	375	
	22	1/4	9/16 X 8	1/4	7/16 X 18	1 15/16	PB22431	29	182T	286T	256T*	490	525	
	24	1/4	9/16 X 8	1/4	7/16 X 18	1 15/16	PB22431	29	182T	286T	286T*	580	635	
	27	5/16	9/16 X 16	3/8	7/16 X 18	2 3/16	PB22435	78	182T	286T	286T*	660	820	
	30	5/16	9/16 X 16	3/8	7/16 X 18	2 7/16	PB22439	119	213T	326T	286T*	935	1040	
	33	5/16	9/16 X 16	3/8	7/16 X 22	2 7/16	PB22439	160	254T	365T	326T*	1145	1210	
	36	5/16	9/16 X 16	3/8	7/16 X 22	2 11/16	PB22443	251	—	—	326T*	—	—	1630
	40	5/16	9/16 X 16	1/2	7/16 X 26	2 15/16	PB22447	423	—	—	365T*	—	—	2080
	44	3/8	9/16 X 16	1/2	7/16 X 30	2 15/16	PB22447	717	—	—	365T*	—	—	2580
	49	3/8	11/16 X 16	1/2	7/16 X 34	2 15/16	PB22447	1180	—	—	405T*	—	—	3110
54	7/16	11/16 X 16	1/2	7/16 X 34	2 15/16	PB22447	1810	—	—	405T*	—	—	3500	
60	7/16	11/16 X 16	1/2	7/16 X 38	2 15/16	PB22447	2875	—	—	405T*	—	—	3800	

* Motor Frames exceeding these values must be Arrangement 9M, Arrangement 1, or Arrangement 8. For other Arrangement maximum motor frame size and dimensions, please contact factory.

Series 41P

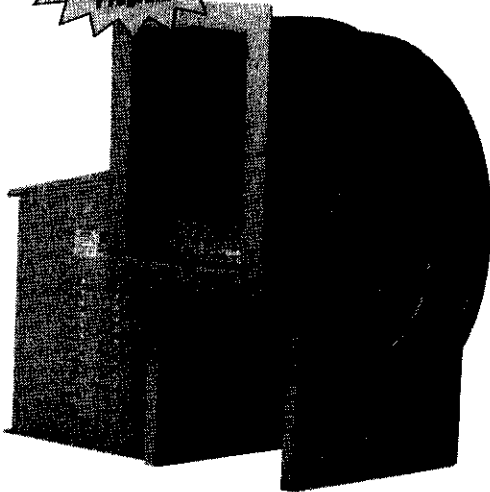
Class	Fan Size	Flanges				Shaft & Bearings			FA Type Wheel WR ² (Lbs.-Ft. ²)	Maximum Motor Frame Arr. #10	Installation Weights (Lbs. Less Motor)
		Inlet		Outlet							
		Thickness	Holes	Thickness	Holes 100% & 66%	Size	Drive Side	Inlet Side			
II	12	1/8	7/16 X 8	1/4	7/16 X 10	1 11/16	P3U-227	P3U-227	1.6	215T	188
	15	3/16	7/16 X 8	1/4	7/16 X 14	1 11/16	P3U-227	P3U-227	4.7	215T	215
	18	3/16	7/16 X 8	1/4	7/16 X 14	1 15/16	P3U-231	P3U-231	11	254T	309
	22	1/4	7/16 X 8	1/4	7/16 X 18	1 11/16	P3U-227	P3U-227	29	256T	397
	24	1/4	7/16 X 8	1/4	7/16 X 18	1 15/16	P3U-231	P3U-231	44	256T	554
	27	5/16	9/16 X 8	3/8	7/16 X 18	2 3/16	P3U-235	P3U-235	78	286T	728
	30	5/16	9/16 X 8	3/8	7/16 X 18	2 3/16	PB-22435	P3U-235	119	324T	878
	33	5/16	9/16 X 8	3/8	7/16 X 22	2 3/16	P3U-235	P3U-235	160	324T	1013
36	5/16	9/16 X 8	3/8	7/16 X 22	2 3/16	P3U-235	P3U-235	251	326T	1131	

Series 41P Backward Curved Centrifugal Fan, Packaged, Type FA

Series 41P Hartzell Fiberglass Backward Curved Centrifugal Fan, Packaged, offers **non-overloading, high efficiency, low noise**, and economy for corrosive atmospheres in a **compact packaged Class II design**. This fan is unique in the fan and blower industry. The fan incorporates the proven, highly efficient, backward curved, airfoil-bladed, solid fiberglass, Type FA wheel in a solid fiberglass housing. This design incorporates the airfoil centrifugal wheel, centrifugal fan housing, and inlet cone to produce a compact, highly efficient unit with low noise characteristics.

- **Applications** – Developed to perform throughout the entire **Class II Performance Range** for compatible corrosive materials and have the motor out of the airstream with the versatility of a belt drive fan.
- **Performance** – Type FA fiberglass airfoil wheel with inlet cone and aerodynamically designed housing produces from **800 CFM to 30,000 CFM** at pressures from **free delivery to 12" W.G.** at **high efficiencies** with non-overloading horsepower, low noise, and low RPM. Max. temperature capability is 250°F.

Stock Models Available in Hartzell's MHS Program



Series 41P
Shown with optional accessories

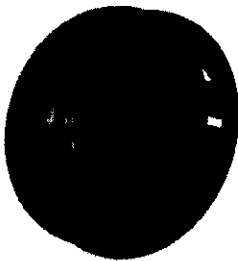
Features

- **Sizes** – 12" through 36" wheel diameters. Packaged Class II construction, Arrangement #10 Belt Drive with weather cover. Available in both 100% and 66% widths.
- **FRP Materials** – Solid fiberglass wheel molded with Ashland Derakane 510-A corrosion resistant vinyl ester resin having a Class II flame spread rate of 30 or less. The housing and other standard FRP components are constructed of fiberglass and Ashland Hetrion 693 corrosive resistant polyester resin having a Class I flame spread rate of 25 or less. No metal parts are exposed in the airstream. See Corrosion Resistance Guide on page 5 for resin characteristics. Other resins are available.
- **Type FA Wheel – High efficiency, airfoil design with one-piece, solid fiberglass construction.** Tapered inlet side design efficiently moves large volumes of air at high pressures. Wheel has non-overloading horsepower characteristic curve.
- **Rotation and Discharge Positions** – Available in both clockwise and counter-clockwise rotations and in all standard discharge positions. Housing discharge position can be changed on fan sizes 12" through 36".
- **Easy Installation and Maintenance** – Motor, drives and bearings are readily accessible for ease in wiring, installation, adjustment, and lubrication. Weather cover and guards are available.
- **Shafts** – Shafts are turned ground and polished, keyed at both ends with fiberglass sleeve in the airstream and sized to operate well below critical speed.
- **Bearings** – Bearings are heavy duty, self-aligning, ball or roller type, in cast iron pillow block housings, selected for long life at maximum Class II construction limits, and include extended lubrication fittings as standard.
- **Standard Shaft Seal** – A fiberglass and neoprene shaft seal is placed where the shaft leaves the housing along with a neoprene shaft slinger between the seal and wheel. Seal is not gas tight.
- **Hardware** – Airstream hardware is Type 304 stainless steel and encapsulated.
- **Motor Out of the Airstream** – Exterior mounting of Drip-Proof Protected motor on an adjustable motor pivot base is standard. Motors can be furnished as TEFC, Mill and Chemical Duty, or to specifications upon request. Motor HP and frame size limits are identified in Dimensions and Material Specifications table.
- **Drives (Belt Drive Fans)** – V-Belt Drives are oversized for long life and continuous duty and are fixed pitch as standard. Variable pitch drives for sizes 24" through 36" are available upon request. Belts are oil, heat, and static resistant type.
- **Balancing** – The fan is electronically statically and dynamically balanced to the requirements of Fan Application Category BV-3 of AMCA/ANSI Std. 204-96. All fans receive an inspection prior to shipment and, whenever possible, a vibration test.
- **Flanged Duct Connections** – Outlet flange is standard, inlet flange is optional. Flange bolt holes are optional.
- **Bases** – Heavy gauge, welded, hot rolled steel with epoxy coating are standard. **Base is sized to accept maximum motor frame size required for Class II operation.**
- **Options and Accessories** – See pages 22 and 23.
- **Spark Resistant Construction and Protective Coatings** – Spark resistant construction for fiberglass equipment is optional, and for abrasive environments or extremely corrosive environments, special construction is available, see page 23.



Hartzell Fan, Inc. certifies that the Series 41P, Fiberglass Backward Curved Centrifugal Fan, Packaged, shown herein is licensed to bear the AMCA seal for air and sound performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Sound Performance data is available upon request. Please contact the factory and ask for Engineering Publication #SD-160.

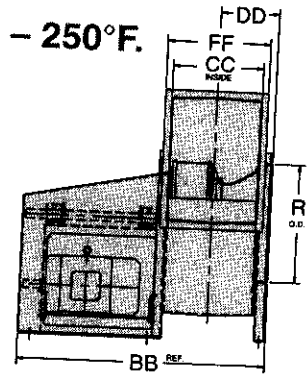
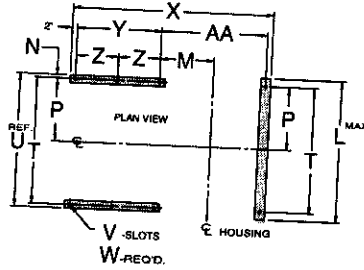
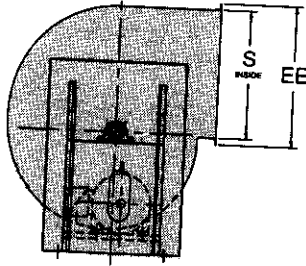


Type FA Wheel



Dimensions – Series 41P, Arrangement 10

SERIES 41P, Type FA
 Sizes 12" Through 36", Rotatable Housing
 Standard Construction – Class II, Maximum Temperature – 250°F.



Principal Dimensions (Inches) – Sizes 12" – 36"

Fan Size	A	B	C	D	E	F	G	H	J	L	M		N
											100% Width	66% Width	
12	17	15 1/2	13	11 1/2	12 3/8	20 1/8	10 7/8	10 1/8	11 1/16	20 3/4	7 5/16	7 5/8	5/8
15	17	18 5/8	16 3/16	14 1/2	15 7/16	24 5/8	13 9/16	12 5/8	13 1/4	20 3/4	9 3/16	8 7/16	5/8
18	20	21 15/16	19	17 1/2	18 5/8	28 15/16	16 3/8	15 1/4	15 1/4	24 3/4	9 5/16	8 1/2	5/8
22	24 3/4	26 1/4	21 1/8	21 5/16	22 11/16	33 1/2	19 15/16	18 9/16	17 3/16	29 3/4	10 7/8	9 7/8	5/8
24	27	28 3/16	23	23 1/8	24 5/8	36 5/16	21 11/16	20 3/16	18 11/16	31 1/8	11 5/8	10 1/2	5/8
27	28 1/2	32 1/2	24	26	27 11/16	39 15/16	24 9/16	22 5/8	20 15/16	34 3/8	13 1/16	11 3/16	13/16
30	30 1/2	35	28 1/2	28 1/4	30 1/16	44 15/16	26 3/8	24 9/16	22 3/4	37 5/8	14	12 5/8	13/16
33	37	38 3/16	28 11/16	31	33	47 1/4	29	27	24 15/16	41 5/8	15 1/8	13 5/8	13/16
36	37	41 5/16	31 1/4	33 3/4	36	51 5/16	31 5/8	29 3/8	27 3/16	44 1/8	16 1/4	14 3/8	13/16

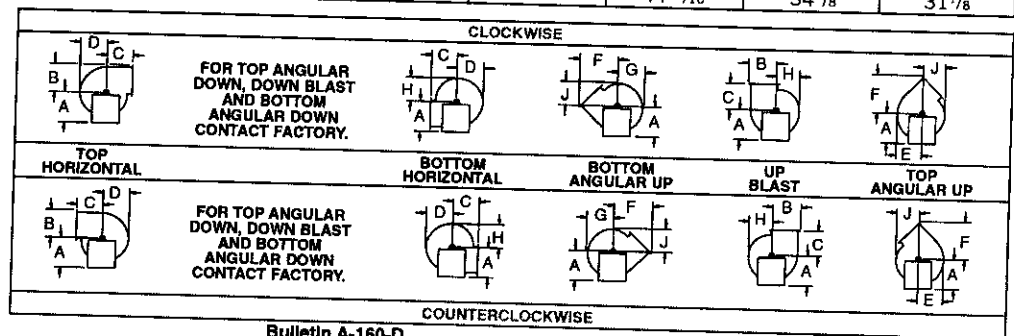
Fan Size	P	R	S	T	U	V	W	X		Y	Z	AA	
								100% Width	66% Width			100% Width	66% Width
12	9 3/4	12 1/4	12 7/8	19 1/2	20 3/4	9/16 X 1	6	36 11/16	36	19 5/8	-	14 1/16	13 3/8
15	9 3/4	16 3/8	16 1/8	19 1/2	20 3/4	9/16 X 1	6	39 9/16	37 5/8	19 5/8	-	16 7/16	15
18	10 1/2	19 3/8	19 3/8	21	22 1/4	9/16 X 1	6	46 1/8	44 3/8	25 1/4	-	17 7/8	16 1/8
22	11 1/8	23 3/4	23 11/16	22 1/4	23 1/2	9/16 X 1	6	49 1/4	47 1/8	25 1/4	-	21	18 7/8
24	10 1/2	25 3/4	25 3/4	21	22 1/4	9/16 X 1	6	50 3/4	48 1/2	25 1/4	-	22 1/2	20 1/4
27	13 3/16	28 5/8	29	26 3/8	28	1 1/16 X 1 1/2	8	58	55 7/16	29 5/8	14 13/16	25 3/8	22 13/16
30	13 7/8	31 1/16	31 1/2	27 3/4	29 3/8	1 1/16 X 1 1/2	8	63 3/16	60 7/16	33	16 1/2	27 3/16	24 7/16
33	13 7/8	34 1/16	34 11/16	27 3/4	29 3/8	1 1/16 X 1 1/2	8	65 9/16	62 1/2	33	16 1/2	29 9/16	26 1/2
36	13 7/8	37 1/16	37 3/16	27 3/4	29 3/8	1 1/16 X 1 1/2	8	67 13/16	64 1/2	33	16 1/2	31 13/16	28 1/2

Fan Size	BB		CC		DD		EE	FF	
	100% Width	66% Width	100% Width	66% Width	100% Width	66% Width		100% Width	66% Width
12	37 5/8	37	9 5/16	8 1/16	8 1/8	7 13/16	18 1/8	14 3/8	13 1/2
15	40 1/8	38 5/8	11 11/16	10 5/16	9 5/16	8 1/2	21 1/16	16 5/8	15 1/4
18	47 1/16	45 3/8	14	12 5/16	10 9/16	9 11/16	24 1/2	19 1/16	17 3/8
22	50 9/16	48 1/8	17 1/8	15 1/16	12 1/8	11 1/16	28 3/4	22 1/4	20 3/16
24	51 3/4	49 1/2	18 11/16	16 3/8	12 15/16	11 3/4	30 13/16	23 11/16	21 1/2
27	59	56 1/2	21	18 1/2	14 5/16	13 1/16	36	28	25 1/2
30	64 3/16	61 1/2	22 13/16	20 1/8	15 1/4	13 7/8	38 1/2	29 13/16	27 1/8
33	66 9/16	63 9/16	25 1/8	22 1/8	16 7/16	14 15/16	41 5/8	32 1/8	29 3/8
36	68 13/16	65 9/16	27 7/16	24 1/8	17 9/16	15 15/16	44 13/16	34 3/8	31 1/8

Dimensions and specifications are subject to change. Clockwise Rotation is shown. Certified prints are available.

Fan Discharges

Scrolls are rotatable. BH and BAU rotations require a height adjusting sub-base. TAD, BAD and DB discharge must have discharge extension. Contact factory.



Performance Data

Class I Class II Class III

A41-12 FA100FG or A41PO-122FA100FG

Wheel Diameter: 12.25 in.
Outlet Area: 0.87 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	1149	1691	0.27	2078	0.50	2418	0.75										
1200	1379	1873	0.36	2219	0.61	2529	0.89										
1400	1609	2066	0.48	2379	0.76	2665	1.06	2814	1.20	3083	1.54						
1600	1839	2260	0.62	2557	0.93	2819	1.26	3066	1.61	3297	1.74	3414	2.12				
1800	2069	2451	0.78	2747	1.15	2987	1.50	3218	1.87	3436	2.27	3643	2.69	4034	3.23	4324	4.18
2000	2299	2646	0.98	2941	1.39	3169	1.77	3382	2.17	3588	2.80	3784	3.04	4155	3.97	4404	4.54
2200	2529	2846	1.21	3137	1.67	3359	2.10	3558	2.52	3751	2.97	3937	3.43	4291	4.41		
2400	2759	3052	1.48	3326	1.97	3554	2.46	3745	2.92	3924	3.38	4100	3.87	4437	4.91		
2600	2989	3263	1.80	3518	2.32	3750	2.87	3937	3.37	4109	3.86	4272	4.37				
2800	3218	3477	2.18	3714	2.70	3941	3.30	4131	3.86	4298	4.40	4456	4.93				
3000	3448	3694	2.61	3913	3.14	4132	3.78	4328	4.41	4492	4.98						
3200	3678	3912	3.10	4115	3.64	4324	4.30	4520	4.99								

A41-12 FA-66FG or A41PO-122FA-66FG

Wheel Diameter: 12.25 in.
Outlet Area: 0.73 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		3"		4"		5"		6"		8"		10"		12"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
800	1096	2144	0.46	2472	0.71	2777	1.00	3062	1.31	3328	1.66						
1000	1370	2359	0.62	2646	0.87	2914	1.17	3168	1.50	3412	1.85						
1200	1644	2593	0.81	2861	1.11	3101	1.40	3329	1.74	3549	2.11	3868	2.64				
1400	1918	2838	1.03	3094	1.39	3320	1.73	3528	2.07	3728	2.44	4109	3.28	4359	3.83	4729	4.81
1600	2192	3095	1.29	3333	1.70	3553	2.11	3751	2.49	3937	2.88	4288	3.72	4623	4.66	4943	5.70
1800	2466	3362	1.59	3583	2.05	3791	2.51	3985	2.97	4164	3.41	4494	4.26	4808	5.23	5105	6.28
2000	2740	3637	1.95	3843	2.46	4038	2.97	4224	3.48	4399	3.99	4718	4.98	5011	5.94	5291	6.98
2200	3014	3918	2.38	4112	2.92	4294	3.48	4470	4.04	4636	4.60	4951	5.72	5233	6.77		
2400	3288	4205	2.89	4386	3.45	4558	4.05	4724	4.67	4884	5.28	5167	6.50				
2600	3562	4494	3.48	4566	4.06	4829	4.89	4998	5.55	5137	6.32						
2800	3836	4788	4.17	4952	4.76	5101	5.42	5274	6.11								
3000	4110	5081	4.98	5237	5.56												

A41-15 FA100FG or A41PO-152FA100FG

Wheel Diameter: 15.375 in.
Outlet Area: 1.3 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1154	1316	0.38	1615	0.68	1874	1.03										
1800	1385	1462	0.51	1725	0.85	1965	1.22	2184	1.64	2384	2.08						
2100	1615	1615	0.68	1852	1.05	2073	1.46	2277	1.90	2467	2.38	2645	2.88				
2400	1846	1758	0.87	1995	1.30	2193	1.75	2384	2.22	2563	2.73	2733	3.26	3047	4.39		
2700	2077	1894	1.08	2146	1.60	2326	2.08	2503	2.59	2671	3.13	2832	3.69	3134	4.89	3411	6.17
3000	2308	2038	1.34	2300	1.95	2473	2.48	2632	3.02	2791	3.59	2943	4.19	3230	5.45	3498	6.79
3300	2538	2193	1.66	2444	2.33	2625	2.93	2774	3.51	2919	4.12	3063	4.75	3336	6.07	3593	7.48
3600	2769	2358	2.04	2578	2.73	2779	3.46	2924	4.08	3058	4.71	3191	5.38	3451	6.77		
3900	3000	2526	2.48	2716	3.19	2929	4.01	3077	4.71	3206	5.39	3328	6.08	3574	7.55		
4200	3231	2697	3.00	2861	3.71	3064	4.59	3231	5.41	3358	6.15	3476	6.88				
4500	3462	2870	3.59	3013	4.31	3199	5.22	3381	6.17	3511	6.98						
4800	3692	3044	4.25	3174	5.01	3338	5.92	3516	6.93								

A41-15 FA-66FG or A41PO-152FA-66FG

Wheel Diameter: 15.375 in.
Outlet Area: 1.15 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1400	1217	1726	0.64	2214	1.27	2622	2.00	2980	2.83								
1700	1478	1869	0.82	2323	1.54	2707	2.32	3049	3.18	3359	4.14	3647	5.17				
2000	1739	2026	1.03	2451	1.83	2812	2.71	3137	3.64	3436	4.63	3715	5.69	3972	6.85	4215	8.04
2300	2000	2193	1.29	2592	2.18	2935	3.14	3244	4.15	3529	5.22	3796	6.35	4047	7.50	4285	8.73
2600	2261	2368	1.60	2743	2.58	3071	3.62	3366	4.72	3634	5.87	3935	7.08	4131	8.25	4366	9.57
2900	2522	2548	1.97	2904	3.04	3215	4.16	3498	5.34	3760	6.55	4055	7.85	4238	9.18	4441	10.50
3200	2783	2734	2.40	3071	3.56	3358	4.77	3630	6.04	3881	7.35	4129	8.71	4333	10.10	4508	11.60
3500	3043	2925	2.89	3244	4.15	3528	5.46	3789	6.81	4032	8.21	4281	9.65	4478	11.10		
3800	3304	3119	3.47	3421	4.82	3694	6.22	3944	7.65	4178	9.14	4400	10.70				
4100	3565	3316	4.13	3603	5.55	3867	7.06	4136	8.59	4338	10.20	4546	11.80				
4400	3826	3517	4.88	3788	6.40	4040	7.99	4272	9.61	4491	11.30						
4700	4087	3715	5.73	3977	7.33	4238	9.02	4443	10.70								

Performance certified for installation Type D: ducted inlet/ducted outlet. Power rating (BHP) does not include transmission losses. Performance data is based on standard air conditions (0.075 #/ft.3). Performance ratings do not include the effects of appurtenances (accessories). MOST EFFICIENT FAN SELECTION APPEARS IN BOLD PRINT. To complete model code, add arrangement, class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.



Performance Data

Class I Class II Class III

A41-18 FA100FG or A41P0-182FA100FG

Wheel Diameter: 18.5 in.
Outlet Area: 1.88 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2000	1064	1030	0.46	1288	0.85	1530	1.34										
2500	1330	1154	0.64	1383	1.10	1586	1.60	1781	2.17	1970	2.81						
3000	1596	1288	0.87	1496	1.40	1681	1.97	1851	2.57	2013	3.21	2176	3.93				
3500	1862	1417	1.15	1622	1.77	1792	2.40	1949	3.07	2096	3.76	2237	4.48	2516	6.10	2784	7.91
4000	2128	1544	1.47	1756	2.22	1912	2.91	2059	3.65	2197	4.41	2328	5.18	2577	6.83	2821	8.67
4500	2394	1680	1.87	1892	2.75	2043	3.53	2179	4.31	2309	5.14	2433	5.99	2665	7.74	2885	9.60
5000	2660	1826	2.37	2017	3.31	2178	4.24	2307	5.09	2428	5.97	2545	6.89	2767	8.79	2973	10.70
5500	2926	1978	2.97	2143	3.95	2314	5.04	2441	5.99	2556	6.93	2666	7.90	2876	9.93		
6000	3191	2133	3.69	2275	4.68	2439	5.87	2576	6.99	2689	8.02	2793	9.05	2993	11.20		
6500	3457	2290	4.52	2414	5.54	2564	6.78	2711	8.09	2824	9.23	2926	10.30				
7000	3723	2449	5.49	2561	6.55	2693	7.81	2835	9.21	2959	10.60						
7500	3989	2609	6.59	2712	7.70	2828	8.97	2960	10.40								

A41-18 FA-66FG or A41P0-182FA-66FG

Wheel Diameter: 18.5 in.
Outlet Area: 1.66 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2000	1205	1442	0.91	1832	1.83	2161	2.87										
2400	1446	1554	1.14	1926	2.17	2234	3.31	2510	4.55	2769	5.89						
2800	1687	1677	1.41	2031	2.56	2325	3.81	2585	5.14	2826	6.56	3068	8.07	3273	9.67		
3200	1928	1808	1.74	2142	2.98	2426	4.36	2676	5.80	2905	7.33	3120	8.92	3324	10.60	3520	12.30
3600	2169	1946	2.14	2259	3.47	2534	4.96	2777	6.52	2998	8.18	3205	9.85	3398	11.60	3585	13.40
4000	2410	2089	2.60	2384	4.05	2646	5.62	2883	7.31	3098	9.08	3297	10.90	3485	12.80	3658	14.70
4400	2651	2236	3.14	2515	4.71	2764	6.36	2993	8.15	3204	10.00	3398	12.80	3581	13.80	3755	16.00
4800	2892	2387	3.76	2650	5.45	2888	7.21	3108	9.08	3313	11.10	3505	13.10	3689	15.20		
5200	3133	2542	4.47	2790	6.29	3013	8.18	3228	10.10	3426	12.20	3613	14.40	3798	16.60		
5600	3373	2699	5.28	2933	7.22	3151	9.22	3353	11.30	3544	13.40	3725	15.70				
6000	3614	2858	6.19	3070	8.26	3288	10.40	3482	12.60	3667	14.80						
6400	3855	3020	7.22	3209	9.41	3428	11.70	3615	13.90	3793	16.30						

A41-22 FA100FG or A41P0-222FA100FG

Wheel Diameter: 22.625 in.
Outlet Area: 2.81 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3200	1139	843	0.70	1051	1.30	1253	2.02										
4000	1423	931	0.95	1131	1.67	1294	2.43	1455	3.29	1616	4.25						
4800	1708	1027	1.28	1225	2.14	1374	2.99	1511	3.90	1643	4.87	1779	5.95				
5600	1993	1144	1.73	1311	2.65	1467	3.67	1593	4.66	1711	5.71	1826	6.81	2056	9.23	2284	11.9
6400	2278	1266	2.30	1400	3.25	1558	4.42	1686	5.57	1796	6.70	1901	7.88	2103	10.40	2303	13.10
7200	2562	1393	2.99	1511	4.03	1642	5.22	1780	6.57	1890	7.85	1990	9.12	2176	11.80	2354	14.60
8000	2847	1520	3.82	1629	4.99	1736	6.18	1862	7.60	1985	9.11	2084	10.50	2261	13.40	2428	16.30
8800	3132	1650	4.81	1752	6.11	1848	7.38	1950	8.77	2067	10.40	2178	12.00	2355	15.10		
9600	3416	1781	5.97	1877	7.40	1966	8.78	2054	10.20	2153	11.80	2260	13.60				
10400	3701	1914	7.31	2004	8.89	2087	10.40	2169	11.90	2251	13.50	2346	15.20				
11200	3986	2047	8.86	2132	10.60	2211	12.20	2287	13.80	2363	15.50	2440	17.20				
12000	4270	2181	10.60	2261	12.50	2337	14.20	2409	16.00								

A41-22 FA-66FG or A41P0-222FA-66FG

Wheel Diameter: 22.625 in.
Outlet Area: 2.48 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3500	1411	1230	1.54	1542	2.98	1797	4.53	2025	6.22								
4100	1653	1326	1.89	1618	3.50	1867	5.36	2081	7.07	2279	9.00						
4700	1895	1429	2.32	1702	4.08	1939	6.00	2151	8.04	2338	10.10						
5300	2137	1537	2.82	1794	4.74	2019	6.81	2223	9.02	2411	11.30	2515	12.30	2684	14.50		
5900	2379	1644	3.39	1892	5.49	2106	7.72	2301	10.10	2483	12.60	2652	15.10	2808	17.70	2854	20.30
6500	2621	1756	4.05	1998	6.34	2199	8.72	2386	11.20	2560	13.90	2724	16.60	2879	19.40	3025	22.30
7100	2863	1873	4.81	2102	7.29	2297	9.84	2476	12.50	2643	15.30	2802	18.20	2952	21.20	3096	24.20
7700	3105	1993	5.69	2209	8.35	2396	11.10	2570	13.90	2732	16.60	2884	19.90	3030	23.00		
8300	3347	2118	6.71	2317	9.60	2503	12.90	2665	15.40	2824	18.50	2972	21.70				
8900	3589	2245	7.86	2428	10.80	2611	13.90	2773	17.10	2921	20.30	3054	23.70				
9500	3831	2373	9.16	2543	12.20	2718	15.80	2875	18.90	3021	22.30						
10100	4073	2504	10.60	2660	13.60	2826	17.30	2983	20.80								

Performance certified for installation Type D: ducted inlet/ducted outlet. Power rating (BHP) does not include transmission losses. Performance data is based on standard air conditions (0.075 #/l.3). Performance ratings do not include the effects of appurtenances (accessories). MOST EFFICIENT FAN SELECTION APPEARS IN BOLD PRINT. To complete model code, add arrangement, class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.



Performance Data

Class I Class II Class III

A41-24 FA100FG or A41PO-242FA100FG

Wheel Diameter: 24.625 in.
Outlet Area: 3.33 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	901	706	0.61	939	1.27												
4000	1201	794	0.89	980	1.62	1155	2.48										
5000	1502	877	1.22	1062	2.12	1207	3.05	1346	4.07	1488	5.22						
6000	1802	978	1.67	1154	2.73	1290	3.79	1411	4.90	1528	6.08	1643	7.35	1878	10.20		
7000	2102	1094	2.29	1234	3.39	1382	4.69	1496	5.92	1601	7.19	1702	8.53	1900	11.40	2103	14.70
8000	2402	1214	3.07	1330	4.23	1465	5.64	1588	7.11	1686	8.52	1781	9.96	1960	13.00	2132	16.20
9000	2703	1338	4.01	1442	5.32	1549	6.72	1673	8.38	1781	10.00	1871	11.60	2037	14.80	2195	18.30
10000	3003	1463	5.15	1559	6.61	1651	8.08	1754	9.75	1865	11.60	1964	13.50	2125	17.00		
11000	3303	1589	6.50	1679	8.14	1763	9.73	1848	11.40	1946	13.30	2047	15.30	2217	19.30		
12000	3604	1717	8.10	1802	9.91	1880	11.60	1956	13.40	2035	15.20	2128	17.40				
13000	3904	1846	9.95	1926	11.90	1999	13.80	2070	15.70	2141	17.60	2216	19.70				
14000	4204	1976	12.10	2050	14.20	2121	16.30	2188	18.30								

A41-24 FA-66FG or A41PO-242FA-66FG

Wheel Diameter: 24.625 in.
Outlet Area: 2.94 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	1361	1113	1.74	1403	3.42	1639	5.21										
4700	1599	1198	2.14	1470	4.00	1700	6.03	1899	8.14	2084	10.40						
5400	1837	1290	2.62	1545	4.66	1765	6.89	1961	9.25	2135	11.60	2299	14.20				
6100	2075	1387	3.19	1627	5.41	1856	7.82	2026	10.40	2198	13.10	2351	15.70	2503	18.50	2645	21.40
6800	2313	1484	3.83	1714	6.26	1913	8.85	2085	11.60	2263	14.90	2419	17.40	2562	20.40	2698	23.50
7500	2551	1584	4.57	1806	7.22	1996	9.98	2170	12.90	2342	16.00	2494	19.20	2627	22.40	2760	25.70
8200	2789	1689	5.42	1902	8.29	2083	11.20	2250	14.40	2406	17.50	2562	21.00	2692	24.40	2825	28.00
8900	3027	1797	6.41	1999	9.49	2174	12.60	2334	15.90	2484	19.10	2625	22.90	2761	26.50		
9600	3265	1908	7.54	2096	10.80	2268	14.20	2422	17.70	2567	21.20	2704	25.00	2835	28.80		
10300	3503	2022	8.82	2196	12.20	2363	15.90	2512	19.50	2653	23.30	2786	27.20				
11000	3741	2138	10.30	2298	13.80	2462	17.70	2603	21.60	2743	25.50						
11700	3980	2256	11.90	2404	15.60	2558	19.70	2704	23.80	2836	28.00						

A41-27 FA100FG or A41PO-272FA100FG

Wheel Diameter: 27.625 in.
Outlet Area: 4.22 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4800	1137	687	1.05	857	1.95	1019	3.01										
6000	1422	762	1.45	921	2.52	1055	3.66	1186	4.93	1313	6.32						
7200	1706	835	1.93	999	3.24	1119	4.51	1231	5.87	1339	7.32	1449	8.91				
8400	1991	929	2.58	1073	4.06	1196	5.55	1297	7.04	1394	8.60	1498	10.20	1675	13.80	1856	17.80
9600	2275	1028	3.41	1143	4.95	1276	6.75	1375	8.42	1463	10.10	1549	11.90	1714	15.60	1877	19.70
10800	2559	1130	4.42	1228	6.08	1343	7.99	1455	9.99	1541	11.90	1621	13.80	1773	17.70	1919	21.90
12000	2844	1234	5.64	1323	7.46	1415	9.40	1525	11.60	1621	13.80	1700	15.90	1842	20.20	1978	24.50
13200	3128	1340	7.08	1422	9.08	1502	11.10	1593	13.40	1693	15.90	1780	18.30	1919	22.90		
14400	3412	1446	8.78	1524	11.00	1597	13.20	1671	15.40	1760	18.00	1851	20.80	1999	25.90		
15600	3697	1554	10.80	1627	13.10	1695	15.50	1762	17.90	1834	20.50	1918	23.30				
16800	3981	1662	13.00	1731	15.60	1795	18.10	1858	20.70	1921	23.30	1990	26.20				
18000	4265	1771	15.60	1836	18.30	1897	21.10	1956	23.80								

A41-27 FA-66FG or A41PO-272FA-66FG

Wheel Diameter: 27.625 in.
Outlet Area: 3.73 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5500	1475	1020	2.47	1257	4.57	1467	6.94										
6300	1689	1091	3.02	1317	5.32	1510	7.85	1691	10.60								
7100	1903	1160	3.65	1383	6.18	1565	8.88	1733	11.80	1894	14.90						
7900	2118	1233	4.37	1454	7.15	1627	10.10	1786	13.10	1936	16.40	2080	19.90	2220	23.60		
8700	2332	1311	5.18	1526	8.23	1694	11.40	1846	14.60	1988	18.10	2128	21.70	2253	25.50	2383	29.50
9500	2547	1395	6.09	1594	9.44	1765	12.80	1910	16.30	2046	19.00	2175	23.70	2300	27.60	2421	31.70
10300	2761	1481	7.13	1664	10.80	1836	14.40	1979	18.10	2109	21.90	2233	25.80	2352	30.00	2467	34.20
11100	2976	1569	8.30	1737	12.20	1906	16.10	2049	20.20	2175	24.10	2296	28.20	2410	32.50	2521	36.90
11900	3190	1658	9.62	1813	13.80	1975	18.00	2121	22.20	2245	26.40	2362	30.50	2472	35.20		
12700	3405	1749	11.10	1895	15.50	2045	20.00	2191	24.10	2317	28.90	2441	33.50	2538	38.20		
13500	3619	1840	12.70	1979	17.40	2115	22.20	2260	26.90	2382	31.50	2501	36.40				
14300	3834	1931	14.60	2062	19.40	2194	24.50	2325	29.50	2453	34.90						

Performance certified for Installation Type D: ducted inlet/ducted outlet. Power rating (BHP) does not include transmission losses. Performance data is based on standard air conditions (0.075 #/l.3). Performance ratings do not include the effects of appurtenances (accessories). MOST EFFICIENT FAN SELECTION APPEARS IN BOLD PRINT. To complete model code, add arrangement, class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.

Performance Data

Class I Class II Class III

A41- -30 FA100FG or A41PO-302FA100FG

Wheel Diameter: 30.0 in.
Outlet Area: 4.98 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	1205	651	1.35	801	2.45	943	3.71										
7500	1506	721	1.87	869	3.21	987	4.59	1101	6.11	1214	7.79	1322	9.58				
9000	1807	799	2.53	947	4.16	1055	5.74	1154	7.39	1249	9.14	1344	11.0	1530	15.1		
10500	2108	893	3.43	1014	5.20	1132	7.12	1224	8.95	1309	10.9	1392	12.8	1554	17.1	1716	21.9
12000	2410	992	4.56	1087	6.43	1205	8.65	1301	10.8	1381	12.9	1457	15.0	1603	19.6	1744	24.4
13500	2711	1093	5.96	1178	8.01	1271	10.3	1376	12.8	1459	15.2	1531	17.6	1666	22.4	1795	27.5
15000	3012	1195	7.64	1273	9.90	1349	12.3	1441	14.9	1534	17.8	1609	20.4	1738	25.7		
16500	3313	1298	9.64	1371	12.1	1440	14.7	1513	17.3	1599	20.4	1684	23.5	1815	29.3		
18000	3614	1403	12.0	1471	14.7	1535	17.4	1599	20.3	1669	23.3	1748	26.6				
19500	3916	1508	14.7	1573	17.7	1632	20.6	1691	23.6	1750	26.7	1817	30.1				
21000	4217	1615	17.9	1675	21.1	1732	24.3	1786	27.4	1841	30.7						
22500	4518	1722	21.5	1778	24.9	1833	28.3										

A41- -30 FA-66FG or A41PO-302FA-66FG

Wheel Diameter: 30.0 in.
Outlet Area: 4.39 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	1367	906	2.62	1132	4.98	1335	7.69										
7000	1595	975	3.25	1186	5.85	1371	8.75	1544	11.90								
8000	1822	1043	4.00	1249	6.87	1421	9.97	1580	13.30	1731	17.00						
9000	2050	1112	4.85	1316	8.03	1479	11.40	1628	14.90	1768	18.60	1904	22.80				
10000	2278	1186	5.83	1387	9.34	1543	12.90	1684	16.70	1816	20.80	1944	25.00	2066	29.40	2185	34.00
11000	2506	1267	6.94	1454	10.80	1611	14.70	1746	18.80	1872	23.00	1992	27.40	2108	32.00	2221	36.80
12000	2733	1351	8.21	1522	12.40	1681	16.70	1812	21.00	1933	25.40	2045	29.10	2158	34.90	2265	39.90
13000	2961	1437	9.65	1593	14.20	1749	18.80	1891	23.40	1999	28.10	2108	33.00	2212	38.00	2314	43.20
14000	3189	1524	11.30	1667	16.20	1816	21.10	1951	26.00	2068	31.00	2173	36.20	2276	41.40		
15000	3417	1612	13.10	1747	18.30	1886	23.60	2019	28.90	2135	34.20	2240	39.60	2339	45.10		
16000	3645	1701	15.20	1829	20.70	1966	26.40	2096	32.00	2206	37.60	2309	43.30				
17000	3872	1791	17.50	1913	23.30	2050	29.30	2184	35.40	2273	41.20						

A41- -33 FA100FG or A41PO-332FA100FG

Wheel Diameter: 33.0 in.
Outlet Area: 6.02 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	997	543	1.26	701	2.47												
8000	1329	620	1.88	752	3.31	869	4.88	986	6.67								
10000	1661	688	2.63	826	4.44	927	6.22	1023	8.14	1116	10.20	1210	12.40				
12000	1993	778	3.70	899	5.80	1002	7.93	1086	10.10	1168	12.30	1246	14.60	1402	19.70	1554	25.40
14000	2326	875	5.10	968	7.32	1079	9.94	1162	12.40	1236	14.80	1307	17.40	1443	22.80	1576	28.60
16000	2658	976	6.87	1055	9.31	1144	12.10	1240	15.10	1313	17.90	1379	20.70	1503	26.40	1622	32.60
18000	2990	1078	9.06	1150	11.80	1220	14.60	1305	17.90	1390	21.30	1457	24.40	1575	30.70		
20000	3322	1182	11.70	1248	14.70	1311	17.80	1376	21.00	1455	24.70	1532	28.50	1652	35.50		
22000	3654	1287	14.90	1349	18.20	1406	21.50	1463	26.00	1525	28.60	1597	32.70				
24000	3987	1393	18.60	1450	22.30	1504	25.90	1556	29.60	1609	33.30	1667	37.40				
26000	4319	1499	23.00	1553	27.00	1604	30.90	1653	34.80								
28000	4651	1607	28.10	1657	32.30												

A41- -33 FA-66FG or A41PO-332FA-66FG

Wheel Diameter: 33.0 in.
Outlet Area: 5.32 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	1316	811	3.02	1020	5.83												
8300	1560	878	3.82	1071	6.93	1241	10.40	1400	14.20								
9600	1805	944	4.77	1131	8.22	1288	12.00	1433	16.00	1572	20.40						
10900	2049	1012	5.88	1197	9.73	1345	13.80	1480	18.10	1608	22.70	1733	27.60				
12200	2293	1084	7.16	1266	11.40	1408	15.80	1535	20.50	1655	25.30	1779	30.10	1901	35.80	1990	41.50
13500	2538	1164	8.63	1331	13.40	1474	18.10	1596	23.10	1710	28.30	1819	33.60	1923	39.30	2025	45.10
14800	2782	1246	10.30	1398	15.50	1543	20.70	1662	26.00	1770	31.50	1874	37.20	1975	43.10	2069	49.10
16100	3026	1330	12.30	1468	17.90	1609	23.60	1729	29.20	1835	35.10	1934	41.10	2029	47.20	2121	53.80
17400	3271	1416	14.50	1542	20.60	1675	26.70	1798	32.80	1902	39.00	1998	45.30	2090	51.80		
18700	3515	1502	17.00	1622	23.50	1743	30.10	1863	36.80	1970	43.20	2064	49.90				
20000	3759	1589	19.80	1703	26.75	1814	33.70	1929	40.80	2036	47.80						
21300	4004	1677	23.00	1786	30.20	1888	37.70	1997	45.20	2103	52.70						

Performance certified for installation Type D: ducted inlet/ducted outlet. Power rating (BHP) does not include transmission losses. Performance data is based on standard air conditions (0.075 W/L3). Performance ratings do not include the effects of appurtenances (accessories). MOST EFFICIENT FAN SELECTION APPEARS IN BOLD PRINT. To complete model code, add arrangement, class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.

Performance Data

Class I Class II Class III

A41-36 FA100FG or A41PO-362FA100FG

Wheel Diameter: 36.0 in.
Outlet Area: 7.17 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	1395	565	2.43	684	4.15	782	5.98										
12000	1674	620	3.27	741	5.34	830	7.42	913	9.59	995	12.0						
14000	1953	688	4.35	796	6.76	887	9.14	963	11.6	1034	14.1	1104	16.7				
16000	2232	761	5.71	848	8.37	946	11.2	1020	13.9	1086	16.6	1149	19.5	1271	25.5		
18000	2510	837	7.39	911	10.3	996	13.4	1079	16.5	1143	19.6	1203	22.7	1315	29.0	1423	35.9
20000	2789	913	9.42	981	12.6	1050	15.9	1130	19.4	1202	22.9	1261	26.2	1367	33.2	1467	40.3
22000	3068	990	11.8	1054	15.2	1114	18.8	1182	22.6	1255	26.5	1320	30.2	1424	37.7	1519	45.4
24000	3347	1068	14.7	1128	18.3	1184	22.2	1239	26.2	1305	30.3	1372	34.6	1482	42.7		
26000	3626	1147	18.0	1204	21.9	1256	26.0	1307	30.2	1360	34.6	1423	39.2				
28000	3905	1226	21.8	1280	26.0	1330	30.3	1377	34.8	1424	39.4	1476	44.2				
30000	4184	1306	26.2	1357	30.5	1405	35.2	1449	39.9	1493	44.8	1538	49.8				
32000	4463	1386	31.2	1435	35.9	1481	40.7	1523	45.7								

A41-36 FA-66FG or A41PO-362FA-66FG

Wheel Diameter: 36.0 in.
Outlet Area: 6.33 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	1264	714	3.29	907	6.48	1075	10.00										
9600	1517	771	4.12	953	7.77	1105	11.70	1246	15.30								
11200	1769	832	5.16	1006	9.20	1151	13.60	1279	18.10	1400	22.90	1520	28.10				
12800	2022	897	6.44	1062	10.80	1201	15.60	1325	20.70	1438	25.90	1548	31.90	1702	39.90		
14400	2275	966	7.91	1121	12.60	1255	17.90	1375	23.40	1484	29.10	1585	35.90	1739	43.90	1869	53.60
16000	2528	1037	9.54	1183	14.80	1312	20.30	1428	26.30	1534	32.50	1632	39.90	1770	48.50	1899	58.90
17600	2780	1110	11.40	1248	17.40	1371	23.10	1483	29.50	1583	35.10	1682	43.90	1816	53.90	1947	64.00
19200	3033	1186	13.60	1315	20.20	1433	26.40	1533	32.60	1632	40.00	1738	47.90	1846	58.40		
20800	3286	1263	16.00	1385	23.20	1497	30.10	1601	35.90	1699	43.20	1790	51.90	1916	63.70		
22400	3539	1342	18.90	1456	26.50	1563	34.10	1663	41.50	1758	49.60	1847	59.80				
24000	3791	1422	22.10	1529	30.10	1632	38.50	1723	45.20	1815	54.00	1906	62.90				
25600	4044	1503	25.70	1603	34.10	1701	43.00	1794	51.60	1882	60.80						

A41-40 FA100FG

Wheel Diameter: 40.25 in.
Outlet Area: 9.43 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12500	1326	506	3.03	611	5.18	700	7.47										
15000	1591	554	4.09	663	6.68	743	9.27	816	12.0	890	15.0						
17500	1856	616	5.44	712	8.44	794	11.4	861	14.5	924	17.6	987	20.9				
20000	2121	681	7.14	758	10.5	846	14.0	912	17.3	971	20.8	1027	24.3	1137	31.9		
22500	2386	748	9.23	815	12.8	891	16.7	965	20.6	1023	24.4	1076	28.3	1176	36.3	1273	44.8
25000	2651	817	11.8	877	15.7	939	19.9	1011	24.3	1076	28.6	1128	32.8	1223	41.5	1312	50.3
27500	2916	886	14.8	942	19.0	996	23.5	1057	28.2	1122	33.1	1180	37.8	1273	47.1	1358	56.7
30000	3181	955	18.4	1009	22.9	1059	27.7	1108	32.7	1166	37.9	1227	43.2	1326	53.4		
32500	3446	1026	22.5	1077	27.4	1123	32.5	1169	37.8	1217	43.3	1272	49.0				
35000	3712	1097	27.3	1145	32.5	1189	37.9	1232	43.5	1274	49.3	1321	55.3				
37500	3977	1168	32.8	1214	38.3	1256	44.0	1296	49.9	1336	56.0	1375	62.3				
40000	4242	1240	39.0	1283	44.8	1324	50.9	1362	57.1								

A41-40 FA-66FG

Wheel Diameter: 40.25 in.
Outlet Area: 8.34 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	1199	639	4.11	811	8.09	962	12.50										
12000	1439	689	5.15	853	9.71	989	14.60	1114	19.80								
14000	1679	744	6.45	900	11.5	1029	17.00	1144	22.70	1252	28.70	1359	35.20				
16000	1918	802	8.05	949	13.50	1074	19.50	1185	25.90	1286	32.40	1381	39.10	1522	49.90		
18000	2158	864	9.89	1002	15.80	1123	22.40	1229	29.20	1327	36.40	1416	43.70	1548	54.90	1671	67.00
20000	2398	927	11.90	1058	18.50	1173	25.40	1277	32.90	1372	40.60	1460	48.90	1583	59.70	1699	73.10
22000	2638	993	14.30	1116	21.70	1226	28.90	1327	36.80	1419	45.20	1508	53.90	1625	66.70	1736	80.10
24000	2878	1061	17.00	1176	25.20	1282	33.00	1378	41.20	1468	50.00	1552	59.10	1669	72.90		
26000	3118	1130	20.00	1238	29.00	1339	37.60	1431	45.20	1519	55.20	1601	64.90	1713	79.60		
28000	3357	1200	23.60	1302	33.10	1395	42.40	1493	51.30	1572	61.50	1662	71.90				
30000	3597	1272	27.60	1367	37.60	1452	48.70	1544	57.80	1627	67.90	1704	77.70				
32000	3837	1345	32.10	1434	42.60	1512	55.90	1605	64.40	1683	74.70						

Performance certified is for installation Type D; ducted inlet/ducted outlet. Power rating (BHP) does not include transmission losses. Performance data is based on standard air conditions (0.075 #/ft.3). Performance ratings do not include the effects of appurtenances (accessories). MOST EFFICIENT FAN SELECTION APPEARS IN BOLD PRINT. To complete model code, add arrangement, class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.

Performance Data

Class I Class II Class III

A41- -44 FA100FG

Wheel Diameter: 44.5 in.
Outlet Area: 11.53 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
15000	1301	454	3.60	549	6.19	630	8.97										
18000	1561	496	4.84	594	7.94	667	11.10	734	14.40	803	18.10						
21000	1821	550	6.41	639	10.00	712	13.60	773	17.30	831	21.00						
24000	2082	607	8.39	679	12.40	759	16.60	818	20.60	872	24.80	923	29.10	1024	36.30		
27000	2342	667	10.80	728	15.20	799	19.90	865	24.50	917	29.10	966	33.80	1057	43.40	1147	53.80
30000	2602	727	13.80	783	18.50	841	23.60	907	28.80	964	34.00	1011	39.00	1098	49.50	1179	60.20
33000	2862	788	17.30	840	22.40	890	27.80	947	33.50	1007	39.50	1058	44.90	1142	56.10	1220	67.70
36000	3122	850	21.40	899	26.90	945	32.70	992	38.70	1047	45.00	1101	51.30	1189	63.50		
39000	3382	913	26.30	959	32.10	1002	38.20	1044	44.60	1090	51.30	1141	58.10	1236	71.70		
42000	3643	975	31.80	1020	38.10	1060	44.60	1099	51.30	1138	58.30	1183	65.60				
45000	3903	1039	38.20	1081	44.80	1120	51.70	1156	58.80	1193	66.10	1229	73.70				
48000	4163	1102	45.30	1142	52.40	1180	59.60	1215	67.10								

A41- -44 FA-66FG

Wheel Diameter: 44.5 in.
Outlet Area: 10.19 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
13000	1276	592	5.40	745	10.50	875	16.00										
15600	1531	642	6.84	787	12.70	908	18.90	1016	25.50	1122	32.70						
18200	1786	696	8.72	833	15.10	949	22.10	1051	29.40	1145	37.00	1236	45.00				
20800	2041	754	11.00	883	17.90	994	25.60	1092	33.70	1192	42.10	1265	50.30	1388	64.00	1505	78.60
23400	2296	814	13.50	935	21.20	1041	29.40	1137	38.30	1223	47.40	1304	56.70	1417	71.10	1524	85.00
26000	2552	876	16.30	990	25.10	1091	33.70	1183	43.20	1266	53.10	1346	63.20	1454	78.80	1537	94.70
28600	2807	941	19.70	1047	29.50	1144	38.70	1232	48.70	1315	59.30	1391	70.10	1497	86.80		
31200	3062	1007	23.50	1107	34.40	1199	44.50	1281	54.80	1363	65.50	1438	77.80	1541	95.40		
33800	3317	1075	28.00	1168	39.60	1258	51.00	1337	61.90	1414	73.20	1486	85.40				
36400	3572	1143	33.10	1230	45.40	1314	58.00	1392	69.20	1462	81.50	1536	94.10				
39000	3827	1213	38.90	1294	51.80	1378	65.40	1449	76.40	1520	90.90						
41600	4082	1283	46.30	1363	59.30	1436	73.40	1507	87.70	1576	101.00						

A41- -49 FA100FG

Wheel Diameter: 49.0 in.
Outlet Area: 13.98 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16000	1144	383	3.49	478	6.32	562	9.69										
20000	1431	428	4.92	517	8.28	588	11.90	656	15.90	724	20.40						
24000	1717	479	6.65	556	10.80	628	14.80	688	19.10	745	23.70	801	28.70	914	39.70		
28000	2003	532	8.85	602	13.70	667	18.40	728	23.10	780	28.00	830	33.20	927	44.60	1023	57.20
32000	2289	585	11.60	653	17.00	710	22.60	767	28.00	820	33.30	868	38.80	955	50.50	1040	63.50
36000	2575	640	14.90	705	20.90	759	27.20	809	33.50	850	39.40	908	45.40	992	57.80	1070	71.10
40000	2861	696	19.00	757	25.50	810	32.30	856	39.40	902	46.30	948	53.00	1033	66.20	1107	80.20
44000	3147	755	23.70	810	30.90	862	38.30	907	45.90	949	53.60	990	61.30	1072	75.90		
48000	3433	814	29.30	864	37.20	914	46.10	959	53.20	999	61.60	1037	70.10	1113	86.40		
52000	3720	873	35.80	920	44.30	967	52.80	1011	61.50	1050	70.40	1087	79.50				
56000	4006	934	43.30	977	52.40	1021	61.60	1063	70.80	1103	80.20						
60000	4292	995	51.80	1034	61.60	1075	71.40	1116	81.20								

A41- -49 FA-66FG

Wheel Diameter: 49.0 in.
Outlet Area: 12.38 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
17000	1375	555	7.35	693	14.00	816	21.60										
20000	1618	597	9.01	730	16.70	840	24.80	944	33.80	1045	43.50						
23000	1861	644	11.10	771	19.70	874	28.60	969	38.00	1060	48.30	1148	59.20				
26000	2104	694	13.50	812	22.90	914	32.90	1002	43.00	1086	53.70	1167	63.00	1265	83.30		
29000	2346	745	16.30	855	26.4	955	37.50	1041	48.70	1120	60.00	1195	71.80	1305	90.90	1411	111.00
32000	2589	795	19.50	903	30.50	997	42.30	1083	54.70	1159	67.00	1230	78.50	1351	98.10	1431	120.00
35000	2832	847	23.10	952	35.10	1040	47.50	1123	60.90	1200	74.50	1269	87.90	1388	108.00		
38000	3074	901	27.20	1002	40.30	1086	53.40	1168	69.40	1241	82.10	1310	96.90	1403	119.00		
41000	3317	956	31.90	1053	46.10	1131	58.10	1216	74.80	1282	90.10	1351	106.00				
44000	3560	1012	37.30	1103	52.30	1177	67.40	1266	82.50	1325	98.80	1392	115.00				
47000	3803	1070	43.30	1152	59.10	1225	76.40	1305	91.80	1369	108.00	1434	125.00				
50000	4045	1128	50.10	1207	66.60	1276	84.00	1354	101.00	1417	118.00						

Performance certified is for installation Type D: ducted inlet/ducted outlet. Power rating (BHP) does not include transmission losses. Performance data is based on standard air conditions (0.075 #/ft.3). Performance ratings do not include the effects of appurtenances (accessories). MOST EFFICIENT FAN SELECTION APPEARS IN BOLD PRINT. To complete model code, add arrangement, class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.

Performance Data

Class I Class II Class III

A41-54 FA100FG

Wheel Diameter: 54.25 in.
Outlet Area: 17.13 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20000	1168	349	4.41	434	7.91	509	12.10										
25000	1459	391	6.22	470	10.40	535	14.90										
30000	1751	439	8.44	507	13.60	571	18.60	595	19.80	655	25.30						
35000	2043	487	11.30	550	17.30	608	23.30	662	29.10	710	35.10	726	35.80	826	49.30		
40000	2335	536	14.80	597	21.60	648	28.60	699	35.30	746	41.90	790	48.70	858	63.30	943	79.20
45000	2627	587	19.10	645	26.60	693	34.40	738	42.30	783	49.80	826	57.20	903	72.60	972	89.00
50000	2919	639	24.30	693	32.50	741	41.00	782	49.80	822	58.50	863	66.90	940	83.40	1007	101.00
55000	3211	693	30.50	742	39.50	789	48.60	829	58.10	867	67.80	903	77.50	976	95.70		
60000	3503	748	37.70	793	47.50	837	57.40	877	67.80	913	78.00	947	88.50	1014	109.00		
65000	3795	803	46.10	844	56.70	886	67.40	925	78.20	961	89.30	993	101.00				
70000	4086	859	55.80	896	67.20	935	78.70	973	90.20	1009	102.00						
75000	4378	915	66.90	950	79.00	986	91.30										

A41-54 FA-66FG

Wheel Diameter: 54.25 in.
Outlet Area: 15.15 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
22000	1452	513	9.62	635	18.2	743	27.7	844	38.2								
25400	1677	549	11.6	668	21.3	765	31.4	857	42.6	946	54.6						
28800	1901	589	14.0	702	24.8	795	35.9	879	47.5	961	60.2	1030	73.7				
32200	2125	631	16.8	737	28.4	823	40.9	908	53.3	983	66.5	1058	80.8	1162	103		
35600	2350	673	20.0	773	32.4	863	46.0	941	59.7	1012	73.7	1079	88.1	1179	111	1274	136
39000	2574	716	23.6	813	37.0	898	51.4	976	66.6	1044	81.8	1109	94.8	1201	121	1291	146
42400	2799	759	27.7	853	42.3	934	57.3	1010	73.5	1079	90.0	1141	106	1225	131		
45800	3023	804	32.2	895	48.0	972	63.9	1048	80.5	1113	98.6	1175	116	1250	143		
49200	3248	849	37.4	938	54.4	1012	71.2	1081	88.8	1147	108	1205	127	1299	155		
52600	3472	896	43.2	980	61.2	1053	79.3	1119	97.6	1183	117	1243	137				
56000	3696	944	49.7	1023	68.7	1095	87.0	1159	107	1219	127	1278	148				
59400	3921	992	57.0	1065	76.8	1138	97.3	1200	118	1265	138						

A41-60 FA100FG

Wheel Diameter: 60.0 in.
Outlet Area: 20.9 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		1"		2"		3"		4"		5"		6"		8"		10"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
24000	1148	313	5.24	390	9.48	459	14.5										
30000	1435	350	7.38	422	12.4	481	17.8	536	23.8	591	30.5						
36000	1722	392	9.98	455	16.2	513	22.2	562	28.6	608	35.5	654	43.1	746	59.6		
42000	2010	434	13.3	492	20.6	545	27.7	595	34.6	637	42.0	678	49.8	757	66.9	836	85.7
48000	2297	478	17.4	533	25.5	580	34.0	626	41.9	670	49.9	709	58.2	780	75.8	850	95.2
54000	2584	523	22.4	576	31.4	620	40.8	661	50.2	702	59.2	741	68.1	811	86.7	874	107
60000	2871	569	28.5	618	38.3	661	48.5	700	59.1	737	69.5	774	79.5	844	99.3	904	120
66000	3158	616	35.6	662	46.4	704	57.4	741	68.9	775	80.5	809	91.9	876	114		
72000	3445	665	44.0	706	55.8	747	67.6	783	79.9	816	92.4	847	105	909	130		
78000	3732	714	53.8	752	66.5	790	79.3	826	92.2	858	106	888	119				
84000	4019	763	65.0	798	78.6	834	92.4	869	106	901	120						
90000	4306	813	77.8	845	92.4	879	107	912	122								

A41-60 FA-66FG

Wheel Diameter: 60.0 in.
Outlet Area: 18.53 sq. ft.

CFM	Outlet Velocity FPM	Static Pressure															
		2"		4"		6"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
24000	1295	442	10.30	557	19.90	662	31.00										
28500	1538	476	12.60	585	23.70	678	35.50	767	48.70								
33000	1781	513	15.50	618	28.10	704	40.90	784	54.80	861	69.90	935	86.00				
37500	2024	553	19.00	652	32.70	735	47.20	809	61.90	879	77.70	947	94.90	1045	122.00		
42000	2267	595	23.00	687	37.70	769	54.80	840	70.10	905	86.70	968	104.00	1059	132.00	1148	162.00
46500	2509	636	27.50	724	43.60	803	60.90	873	79.00	938	94.90	994	115.00	1080	144.00	1162	175.00
51000	2752	678	32.70	764	50.30	838	68.60	906	88.20	969	108.00	1025	126.00	1105	160.00		
55500	2995	721	38.70	805	57.80	874	77.10	941	97.80	1002	119.00	1058	141.00	1138	173.00		
60000	3238	766	45.50	846	66.20	914	86.70	976	108.00	1036	131.00	1082	154.00	1168	189.00		
64500	3481	812	53.10	887	75.20	954	97.40	1013	120.00	1071	144.00	1128	169.00				
69000	3724	858	61.90	929	85.20	995	109.00	1052	133.00	1107	157.00	1160	183.00				
73500	3967	906	71.60	972	95.10	1037	122.00	1093	147.00	1148	172.00						

Performance certified is for installation Type D: ducted inlet/ducted outlet. Power rating (BHP) does not include transmission losses. Performance data is based on standard air conditions (0.075 #/l.3). Performance ratings do not include the effects of appurtenances (accessories). MOST EFFICIENT FAN SELECTION APPEARS IN BOLD PRINT. To complete model code, add arrangement, class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.

Options and Accessories

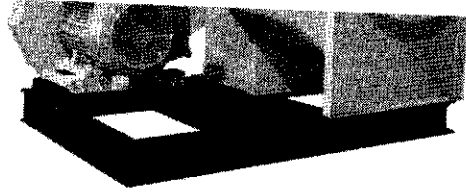
Drain

Fiberglass bulk head fitting assembled in housing, NPT female threaded fitting. 1" NPT on Series 41 and Series 41P. Plug not provided.



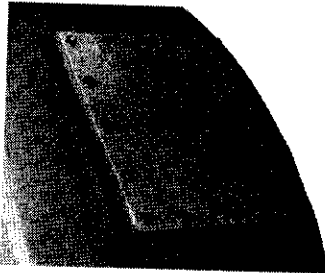
Arrangement 1 Sub-Base

Common structural support for Arrangement 1 fan and motor. Specify motor mounting position (see page 6). Epoxy coated steel. Series 41 only.



Access Door

Raised, bolted type door - held in place with zinc plated bolts and gasketed for a tight seal.



Arrangements

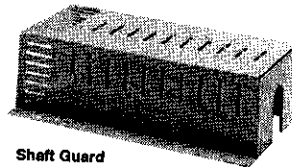
Arrangement 8 and other arrangements not shown are available, (see page 6). Contact factory.

Vibration Isolators

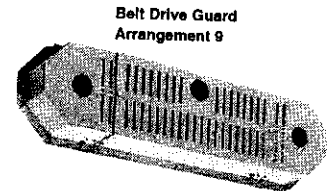
Rubber-in-shear or spring type isolators available on all models.

Drive Guards

Encloses the drive assembly while permitting circulation of ambient air. Standard features include: tach opening, belt tension openings and adjustable length. Series 41 only.



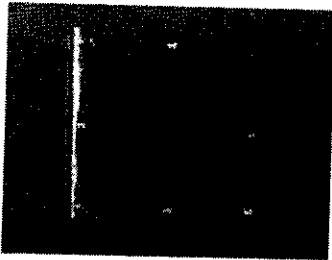
Shaft Guard
Arrangement 9 or 1



Belt Drive Guard
Arrangement 9

Inspection Door

Allows periodic visual inspection of wheel - fastened with stainless steel bolts and gasketed for tight seal.

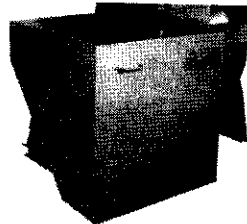


Inlet and Outlet Guards

Spiral ring guard offers protection on inlet side and a wire mesh guard can be furnished for the outlet side. Guards are epoxy coated steel.

Combination Drive Guard and Weather Cover

Covers motor and shaft sheaves as well as belts. Combines guarding the drive as well as protection from the weather. Epoxy coated steel. Specify fan arrangement.



Arrangement 9
Series 41



Arrangement 10
Series 41P

Flanged Inlet

Fiberglass inlet flange is available. Flanges are drilled upon request. Flanged and drilled inlet is required when inlet control damper is furnished.

Disconnect Switch

On-off switch mounted to the unit to provide safety during maintenance.

V-Belt Drives

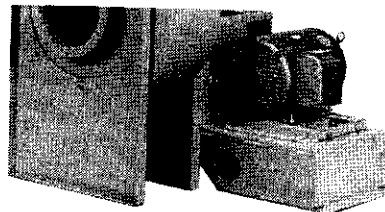
Constant speed (fixed pitch) or adjustable speed (variable pitch) oil, heat, and static resistant type V-Belt Drives, oversized for long life and continuous duty as standard, are available upon request.

Inlet Boxes

Solid fiberglass construction. Inlet box improves entry conditions and minimizes losses which are generally associated with duct elbows at the fan inlet. Inlet boxes are designed for specific applications. Contact factory.

Arrangement 9M Motor Base

Accommodates a larger frame size motor than the standard arrangement 9 base. Series 41 only.



General Construction Options

Abrasive/Erosive Resistant Coating

HartKoate is an abrasive/erosive resistant coating developed by Hartzell Fan for application in environments where abrasive/erosive conditions may exist. HartKoate helps prevent premature deterioration of equipment in environments where uncoated fans may fail.

Impact resistant HartKoate is applied to a 50-60 mil thickness suitable for temperatures to 250°F.

HartKoate is particularly appropriate for use when water mist and/or abrasive particles exist in the airstream.

Contact your Hartzell representative for further details concerning the application of HartKoate coating to fiberglass fans in corrosive atmospheres.

Hi-Cor Construction

All airstream surfaces exposed to a corrosive environment will be protected with a layer of Synthetic (Nexus) surfacing veil. An additional final coat of resin will be applied for extra corrosion resistance.

When Hi-Cor construction is required, the factory should be consulted concerning the corrosive environment involved.

Electrostatically Grounded Fiberglass Fans

For applications in which fiberglass fans are handling gas fumes that are not only corrosive but also potentially explosive, the equipment should be specially constructed to control and remove static electricity. Interior airstream surfaces can be coated with a "carbon rich" resin coat and grounding straps secured from the side of the housing to the fan's steel base. All that remains to effectively ground the airstream is to ground the fan base at the time of installation.

SAFETY ACCESSORIES, APPLICATION AND USE WARNING

The safe application and use of equipment supplied by Hartzell Fan, Inc. is the responsibility of the installer, the user, the owner, and the employer. Since the application and use of its equipment can vary greatly, Hartzell Fan, Inc. offers various product types, optional safety accessories, and sound performance data per laboratory tests. Hartzell Fan, Inc. sells its equipment with and without safety accessories, and accordingly, it can supply such safety accessories only upon receipt of an order. The need for safety accessories will frequently depend upon the type of system, fan location and operating procedures being employed. The proper protective safety accessories to meet company standards, local codes, and the requirements of the Occupational Safety and Health Act must be determined by the user since safety requirements vary depending on the location and use of the equipment. If applicable local conditions, standards, codes or OSHA rules require the addition of the safety accessories, the user should specify and obtain the required safety accessories from Hartzell Fan, Inc. and should not allow the operation of the equipment without them.

Owners, employers, users and installers should read "RECOMMENDED SAFETY PRACTICES FOR USERS AND INSTALLERS OF INDUSTRIAL AND COMMERCIAL FANS" published by the Air Movement and Control Association International, Inc., 30 West University Drive, Arlington Heights, Illinois 60004. A copy of this publication is enclosed with each fan shipped from Hartzell Fan, Inc. and is available upon request at Hartzell's office in Piqua, Ohio 45356.

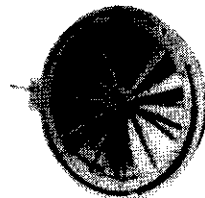
Please contact Hartzell Fan, Inc. or your local Hartzell representative for more information on product types, safety accessories, and sound performance estimates.

Remember, the selection of safety accessories and the safe application and use of equipment supplied by Hartzell Fan, Inc. is your responsibility.

Heavy-Duty Control Dampers

Inlet Control Damper

Dampers are mounted on the blower's drilled inlet flange to both increase the efficiency of the system and permit control of air volume. Dampers are epoxy coated or stainless steel construction.

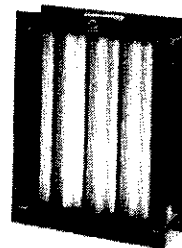


Outlet Dampers

Dampers are mounted directly on the blower outlet to control the volume of air delivered to the system. Opposed and parallel blade dampers are available in steel, stainless steel, coated steel and solid fiberglass.

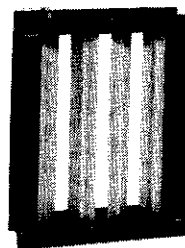
Parallel Blade Type

Best suited for applications requiring accurate air volume in a range from wide open to 75% of wide open. Usually used for balancing the system or for modulated control when pressure drop is variable.



Opposed Blade Type

Best suited for control over a broad range of air volume with more precise control.



Both types of outlet control dampers are available in three classifications:

- Class I – Maximum static pressure: 5" SP
Maximum velocity: 3900 FPM
- Class II – Maximum static pressure: 8½" SP
Maximum velocity: 5100 FPM
- Class III – Maximum static pressure: 20" SP
Maximum velocity: 6000 FPM

CONTACT YOUR LOCAL HARTZELL REPRESENTATIVE FOR ASSISTANCE.

1-800-336-3267

Hartzell Warranty

LIMITED WARRANTIES

Hartzell represents to Buyer that any goods to be delivered hereunder will be produced in compliance with the requirements of the Fair Labor Standards Act of 1938 as amended.

Hartzell also warrants to Buyer its goods to be free from defects in workmanship and material under normal use and service for one (1) year after tender of delivery by Hartzell, plus six months allowance for shipment to approved stocking dealers and distributors. No warranty extends to future performance of goods and any claims for breach of warranty or otherwise accrues upon tender of delivery. The foregoing constitute Hartzell's sole and exclusive warranties and are in lieu of all other warranties, whether written, oral, express, implied or statutory.

LIMITATION OF LIABILITY FOR BREACH OF WARRANTY

Hartzell's obligation for any breach of warranty is limited to repairing or replacing, at its option, without cost to Buyer at its factory any goods which shall, within such a warranty period, be returned to it with transportation charges prepaid, and which its examination shall disclose to its satisfaction to have been defective. Any request for repair or replacement should be directed to Hartzell Fan, Inc., P.O. Box 919, Piqua, Ohio 45356. Hartzell will not pay for any repairs made outside its factory without its prior written consent. This does not apply to any such Hartzell goods which have failed as a result of faulty installation or abuse, or incorrect electrical connections or alterations, made by others, or use under abnormal operating conditions or misapplication of the goods.

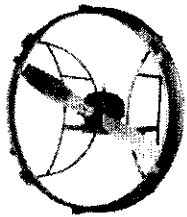
LIMITATION OF LIABILITY

To the extent the above limitation of liability for breach of warranty is not applicable, the liability of Hartzell on any claim of any kind, including negligence, for any loss or damage arising out of or connected with, or resulting from the sale and purchase of the goods or services covered by these Terms and Conditions of Sale or from the performance or breach of any contract pertaining to such sale or purchase or from the design manufacture, sale, delivery, resale, installation, technical direction installation, inspection repair, operation or use of any goods or services covered by these Terms and Conditions shall, in no case exceed the price allocable to the goods or services which gave rise to the claim and shall terminate one year after tender of delivery of said goods or services, plus six months allowance for shipment to approved stocking dealers and distributors.

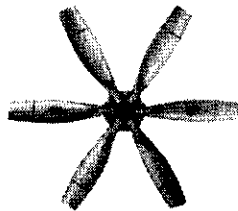
In no event whether as a result of breach of contract, or warranty or alleged negligence, defects, incorrect advice or other causes, shall Hartzell be liable for special or consequential damages, including, but not limited to, loss of profits or revenue, loss of use of the equipment or any associated equipment, cost of substitute equipment, facilities or services, down time costs, or claims of customers of the Buyer for such damages. Hartzell neither assumes nor authorizes any person to assume for it any other liability in connection with the sale of its goods or services.

NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS

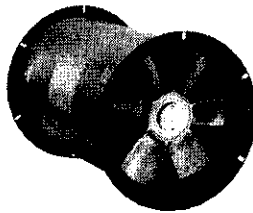
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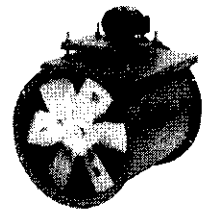
Propeller Fans



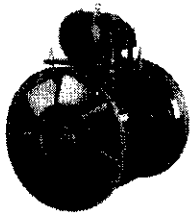
Cooling Tower &
Heat Exchanger Fans



Duct Fans



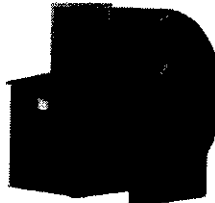
Duct Axial Fans



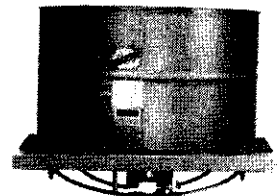
Vaneaxial Blowers



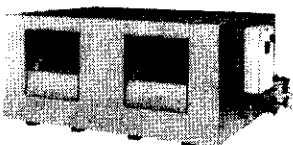
Cool Blast & Utility Fans



Steel Centrifugal Blowers



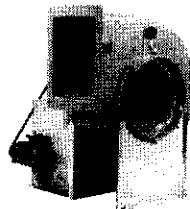
Roof Ventilators -
Steel & Fiberglass



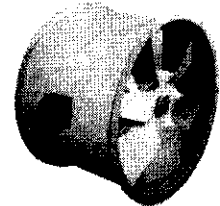
Heating Equipment -
Gas & Steam



Fiberglass
Axial Flow Fans



Fiberglass Centrifugal Blowers



Marine -
Mine Duty Blowers

Hartzell Fan, Inc., Piqua, Ohio 45356 • Plants in Piqua, Ohio and Portland, Indiana

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