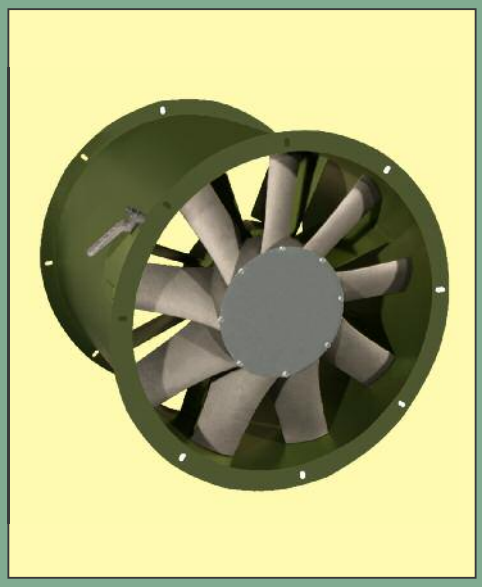
DIRECT DRIVE VANEAXIAL FIXED PITCH FANS

BULLETIN 675
DECEMBER 2017



- Capacities to 100,000 CFM
- Static pressures to 8"WG
- Temperatures to 105°F.

THE NEW YORK BLOWER COMPANY
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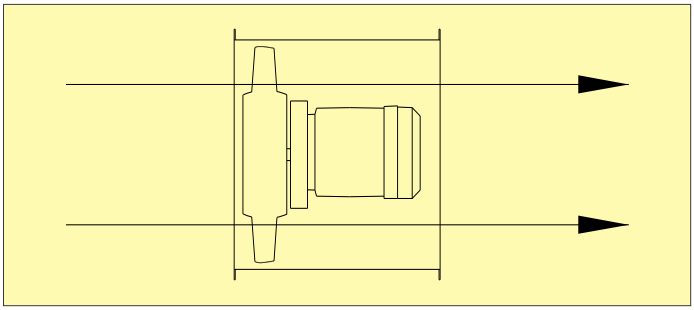


Direct Drive Vaneaxial Fans

Direct Drive Vaneaxial Fixed Pitch Fans are designed and constructed for high pressure ventilating and industrial process applications requiring the compactness of an axial fan.

DESIGN FEATURES

- **Capacities –** to 100,000 CFM.
- **Pressures –** to 8" WG.
- **Thirteen direct-drive sizes –** 16" through 60" wheel diameters.
- **Multiple hub ratios are available –** for increased selection flexibility**.**
- **Choice of direct-drive configurations –** direct drive in five mounting positions.
- **Precision rolled tube –** for minimum tip clearance and maximum efficiency.
- **Blade Pitch –** Selected at time of order

Arrangement 4-R with curb cap and stack hood.

CONSTRUCTION FEATURES

- **Cast aluminum wheel** – airfoil shaped blades provide highly efficient, quiet operation for clean-air applications.
- **Heavy-gauge welded components** – provide structural strength, durability, and minimal leakage.
- **Industrial finish** – **nyb** green industrial grade coating.
- **Straightening vanes** – aerodynamically designed vanes convert velocity pressure to static pressure for maximum efficiency.
- **Flanged connections** – Welded flanges with slotted holes.
- **Lubrication** – extended motor lubrication lines with external fittings provided on all direct drive Vaneaxial Fixed Pitch Fans.
- **Balance** – all wheels are precision-balanced prior to assembly. Fans with motors mounted by **nyb** are checked at the specified running speed.
- **Tapered hub with split taper bushing** – for ease in wheel removal.

SIZING NOMENCLATURE

6–digit model number designates the wheel diameter, hub size, and number of blades.

EXAMPLE

16 – 08 – 09

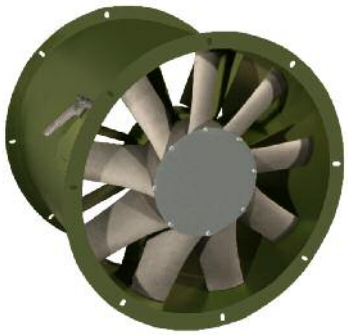
- 16 – Wheel diameter
- 08 – Hub size [inches]
- 09 – Number of blades

Explore Our Full Vaneaxial Fan Line!

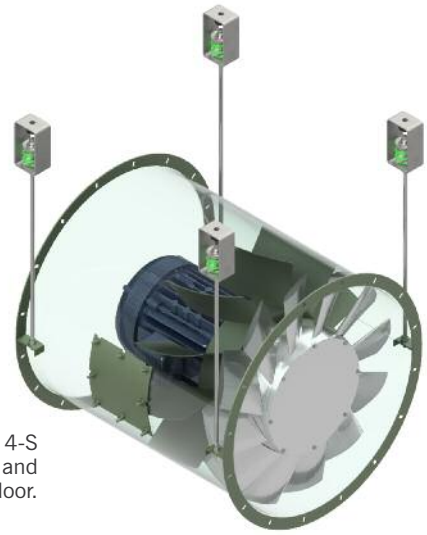
For Belt Drive Vaneaxial Fan options, see Vaneaxial Fixed Pitch Fan Bulletin 673.

For pressure up to 20" WG, see Adjustable Pitch Vaneaxial Fan Catalog Sheet CS-674.

Mounting Arrangements



Arrangement 4-D with motor and access door.

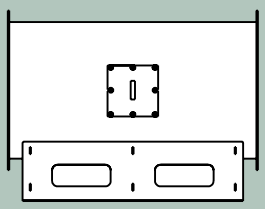


Arrangement 4-S with motor and access door.

ARRANGEMENT

4-M

WITH MOUNTING LEGS

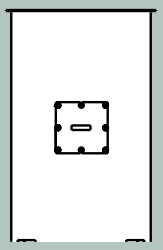


Fabricated mounting legs facilitate fan mounting on the floor, ceiling, or in a vertical position on a wall. Flange connections are standard.

ARRANGEMENT

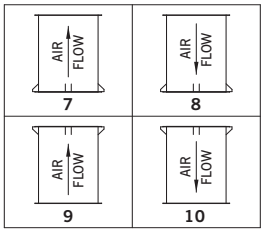
4-V

FOR VERTICAL MOUNTING



Fans are equipped with four mounting brackets suitable for floor, platform, or ceiling mounting. Flange connections are standard.

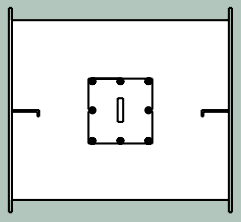
4-V Mounting Positions



ARRANGEMENT

4-S

FOR SUSPENDED MOUNTING



Fans for suspended mounting are equipped with side supports suitable for attachment to rods hung from the ceiling structure. Flange connections are standard.

ARRANGEMENT

4-D

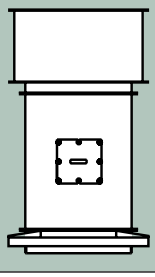
FOR DUCT MOUNTING

Units feature flanges on inlet and discharge for mounting to the duct work.

ARRANGEMENT

4-R

FOR ROOF MOUNTING



Roof-mounted fans are furnished with curb caps and collars extending below the curb cap for easy connection. Stack hoods are optional.

Accessories and Modifications

Arrangement 4-R with curb cap, access door, stack hood, and motor.

Arrangement 4-M VXFP fan with flanged inlet and outlet.

1. **STACK HOOD**
   Stack hood with built-in back-draft dampers for vertical outdoor exhaust applications.
2. **CURB CAP**
   Gussetted cover with nailer holes on perimeter includes flange for vertical fan mounting.
3. **ACCESS DOOR**
   Gasketed, latch-type door swings open on hinges after turning cam levers...bolt-on door also available... provides visual access to wheel...available in all sizes.
4. **MOTORS**
   A wide-array of motors are available factory-mounted by **nyb**.
5. **DAMPERS**
   Bolt-on vortex damper assembly provides volume control...for modulating systems...electric and pneumatic damper operators also available.
6. **DRAINS**–not shown
   For horizontal mounted fans...drain located at the lowest point of the housing tube.
7. **INLET BELL WITH GUARD**–not shown
   Inlet bell minimizes losses associated with non-ducted inlet applications. Includes wire guard.
8. **VIBRATION ISOLATION**–not shown
   Rubber-in-shear or spring-type isolation mounts reduce the transmission of vibration to the mounting structure.
9. **SAFETY EQUIPMENT**–not shown
   Inlet and outlet guards are available. Selection of appropriate safety accessories is the responsibility of the system designer familiar with the specific installation.
10. **COMPANION FLANGES**–not shown
    Fit flush with fan inlet and outlet flanges, provided with matching hole pattern.
11. **MOTOR CONDUIT BOX**–not shown
    External mount of conduit box for increased fan efficiencies is available.

Protective coatings and special alloys are available to combat corrosion problems.

HOUSINGS AND STRUCTURALS

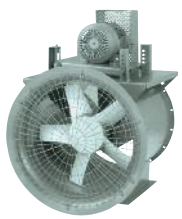
Special corrosion resistant paints and coatings are available under a variety of trade names. **nyb** works with experienced coating applicators who can apply coatings to meet a wide range of requirements.

Solutions For Lower Pressures:

If your system requires lower pressures, consider **nyb**'s Duct and Tubeaxial fan lines. You can learn more about these product lines by viewing bulletins 651 & 661, respectively.

Features include:

- Capacities up to 86,000 CFM
- Temperatures up to 350°F
- Static Pressures to 3" WG
- Direct or belt driven



Accessory Performance

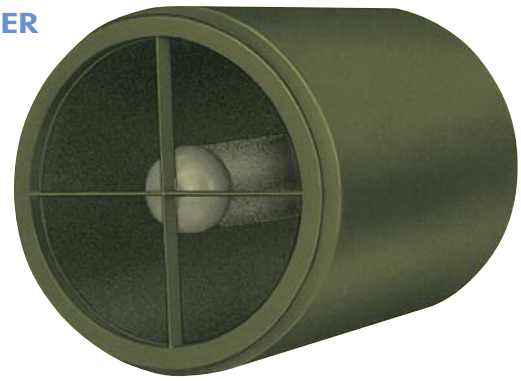
INLET BELL

Catalog ratings shown in this bulletin are for Vaneaxial Fixed Pitch Fans with free inlet and ducted outlet. When no inlet duct is used, entrance loss must be added to the static pressure calculated for the system. For bare inlets, that loss is equal to the fan velocity pressure. **Example:** 4200 FPM velocity = 1.1"WG [see Chart I at right]. Inlet bells render such loss negligible and are available at nominal cost. Sizes 12 through 48 constructed of fiberglass reinforced plastic; Sizes 54 and 60 constructed of steel.

Chart I
VELOCITY PRESSURE

Velocity [FPM]	VP
1000	.062
1400	.122
1800	.202
2200	.301
2600	.421
3000	.560
3400	.719
3800	.899
4200	1.098
4600	1.317
5000	1.556
5400	1.815
5800	2.093
6200	2.392

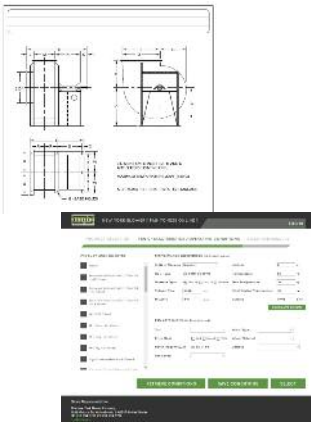
SILENCER



Available for all sizes of Direct Drive Vaneaxial Fixed Pitch Fans with matching standard flanges for either inlet or outlet applications. Silencers are available in two sizes to better match system cost as well as sound attenuation parameters. All silencers utilize heavy-welded steel construction filled with high-density acoustical absorption material. For more detailed application information and attenuation performance, refer to Engineering Supplement ES-673.

SAFETY EQUIPMENT

Safe operation of air-moving equipment is dependent on proper installation and maintenance. This includes selection and use of appropriate safety accessories for the specific installation. Such safety accessories are available from **nyb**. However, selection of the appropriate devices is the responsibility of the system designer who must be aware of the fan location, fan accessibility in the particular installation, and adjacent equipment. Neither **nyb** nor its sales representatives are in a position to make such a determination. The system designer must consider providing guards for all exposed moving parts as well as protection from access to high velocity airstreams. Improper application, installation, maintenance, or safety guard selection can create danger to life and limb of personnel. Users and/or installers should read "Recommended Safety Practices for Air Moving Devices" as published by the Air Movement and Control Association, 30 West University Drive, Arlington Heights, Illinois 60004.



Fan To Size and Drawings on Demand

Fan to Size online allows customers to select fans without the need to download software on their computers or tablets. Fans can be selected by product categories, types or applications. Additionally, drawings are generated to supplement fan selections.

FAN TO SIZE SELECTION BENEFITS

- Compare multiple product lines.
- Metric or English units.
- Add silencers.
- Add accessories.
- Save data for future use.
- Calculate density based on rarefication, compression, and molecular weight.

DRAWINGS ON DEMAND BENEFITS

- Generate drawing package specifically tailored to the user's application requirements.
- Fan-performance curves.
- Select fan's rotation, discharge position, motor frame size and u-base.
- Add accessories (dampers, silencers, stack hoods, curb caps)
- Installation and Maintenance Manuals.

How to Use Capacity Tables

For a given fan size, CFM, and static pressure, capacity tables can be used to obtain outlet velocity, fan RPM, and BHP.

PROCEDURES	STEPS	EXAMPLE: A direct-drive fan is required for 22000 CFM at 0.75"WG at 105°F and 6000 feet above sea level.
If conditions other than standard are involved, correct static pressure for actual altitude and temperature using Chart IV.	1	Chart IV gives a 1.33 factor for 105°F and 6000 feet. Corrected SP is 0.75"WG x 1.33 = 1"WG at 70°F and sea level. Select fan from capacity tables for 22000 CFM at 1"WG.
Select size, RPM, and BHP of fan from capacity table.	2	A Size 32-20-12 with a 40° blade angle is selected for 22000 CFM at 1"WG at 1750 RPM and 14.2 BHP.
Check maximum safe speed of fan at operating temperatures as shown in Charts II or III.	3	From Chart II and III, the maximum safe speed for a Size 32-20-12 fan at 105°F is 2332 RPM (2380 x .98). Fan is satisfactory for operation at 105°F.
Determine actual performance at operating conditions by correcting SP and BHP.	4	Actual performance: 21978 CFM at 0.75"WG (1" ÷ 1.33) at 1750 RPM at 10.7 BHP (14.2 ÷ 1.33) at 105°F and 6000 feet above sea level.

*For more selection information, please visit www.nyb.com/online-fan-selection-software/

Maximum Safe Speed Information

Chart II details maximum safe speed of standard wheels at 70°F. When temperatures are involved, multiply the appropriate safe operating speed shown in Chart II by the factor shown in Chart III. Maximum operating temperature for standard fans is 105°F.

Chart II

MAXIMUM WHEEL SAFE SPEEDS FOR TEMPERATURES at or below 70°F

Maximum operating speeds apply only to wheels operated at or below stated temperature and free of material build-up, corrosion, or wear.

Size	RPM	Size	RPM
16-12-12	4300	32-16-09	2380
18-08-09	4500	32-20-12	2380
18-12-12	4200	36-16-09	2130
21-08-09	3900	36-20-12	2130
21-12-12	3900	36-26-15	2130
21-16-16	3600	38-16-09	2020
24-12-09	3170	38-20-12	1800
24-16-12	3170	38-26-15	2020
27-12-09	3000	42-20-09	1800
27-16-12	3000	42-26-12	1800
27-20-16	3000	48-20-09	1600
29-12-09	2760	48-26-12	1600
29-16-12	2760	54-26-09	1385
29-20-16	2760	60-26-09	1200

Chart III

TEMPERATURE CORRECTION FACTORS FOR WHEEL SAFE SPEEDS

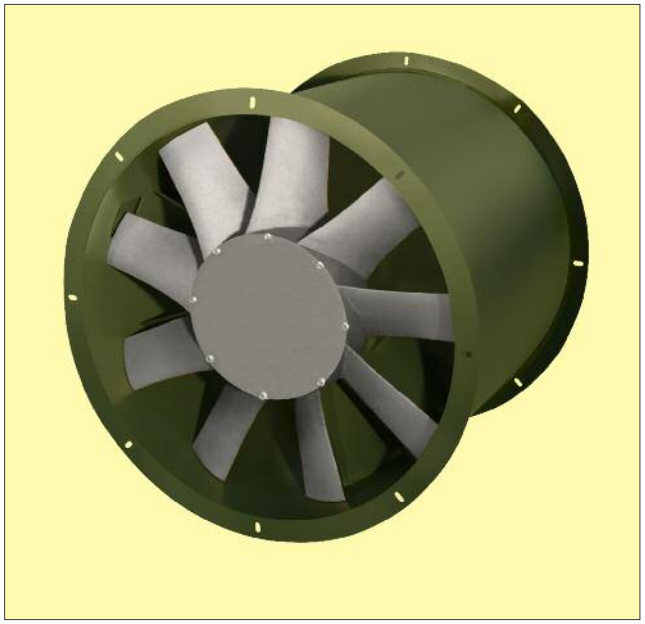
Temp. °F	Aluminum Wheel
–50	1.00
70	1.00
105	.98

* nyb recommends low temperature motor grease for applications below 20°F

Chart IV CORRECTION FACTORS FOR TEMPERATURE AND ALTITUDE

Temperature °F	Altitude–feet above sea level												
	0	500	1000	1500	2000	3000	4000	5000	6000	7000	8000	9000	10000
-50	.77	.79	.80	.82	.83	.86	.89	.92	.96	1.00	1.04	1.08	1.12
-25	.82	.84	.85	.87	.89	.92	.95	.98	1.03	1.07	1.11	1.15	1.19
0	.87	.89	.91	.92	.94	.97	1.01	1.04	1.09	1.13	1.18	1.22	1.26
20	.91	.93	.95	.97	.98	1.02	1.06	1.09	1.14	1.18	1.23	1.27	1.32
40	.94	.96	.98	1.00	1.02	1.05	1.09	1.13	1.18	1.22	1.27	1.32	1.36
60	.98	1.00	1.02	1.04	1.06	1.10	1.14	1.18	1.23	1.27	1.32	1.37	1.42
70	1.00	1.02	1.04	1.06	1.08	1.12	1.16	1.20	1.25	1.30	1.35	1.40	1.45
80	1.02	1.04	1.06	1.08	1.10	1.14	1.18	1.22	1.28	1.33	1.38	1.43	1.48
105	1.06	1.08	1.10	1.12	1.15	1.19	1.23	1.27	1.33	1.38	1.43	1.48	1.54

Direct Drive Vaneaxial Fixed Pitch Fans



Direct Drive Vaneaxial Fixed Pitch Fans are available in sizes 16 through 60. In the event that system pressures or flow requirements change, Direct Drive Vaneaxial Fan performance can be altered by changing to a new wheel with a different blade pitch.

SIZE 16 12-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1¼"SP		1½"SP		2"SP		2½"SP		3"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1725	1285	0.21	1203	0.25	1098	0.28	-	-	-	-	-	-	-	-	-	-	-	-
	3500	2727	1.53	2688	1.60	2649	1.67	2611	1.75	2573	1.82	2535	1.90	2451	2.05	2362	2.19	2251	2.32
40°	1725	2339	0.49	2223	0.53	2105	0.57	1964	0.60	1793	0.63	-	-	-	-	-	-	-	-
	3500	4910	3.87	4857	3.96	4804	4.04	4751	4.12	4699	4.21	4643	4.29	4524	4.43	4411	4.62	4293	4.78
55°	1725	3265	1.05	3119	1.07	2963	1.09	2800	1.10	2609	1.12	-	-	-	-	-	-	-	-
	3500	6832	8.63	6767	8.67	6701	8.72	6633	8.78	6561	8.84	6488	8.88	6346	8.90	6190	8.99	6039	9.08

SIZE 18 08-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1725	2055	0.30	1685	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3500	4571	2.02	4446	2.17	4318	2.32	4185	2.46	3874	2.67	3469	2.81	3047	2.91	2536	2.94	-	-
40°	1725	3895	0.67	3548	0.73	3075	0.75	-	-	-	-	-	-	-	-	-	-	-	-
	3500	8373	5.10	8225	5.26	8078	5.42	7921	5.56	7596	5.79	7245	6.04	6830	6.24	6337	6.27	-	-
50°	1725	4905	1.15	4477	1.18	3865	1.18	-	-	-	-	-	-	-	-	-	-	-	-
	3500	10521	9.33	10338	9.42	10156	9.50	9974	9.58	9567	9.72	9134	9.82	8674	9.95	8013	9.95	-	-

SIZE 18 12-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1725	2187	0.35	2056	0.41	1919	0.47	1655	0.51	-	-	-	-	-	-	-	-	-	-
	3500	4622	2.46	4559	2.61	4496	2.76	4444	2.88	4318	3.14	4185	3.41	4065	3.67	3918	3.91	3766	4.13
40°	1725	3944	0.91	3795	0.98	3627	1.05	3443	1.11	2913	1.19	-	-	-	-	-	-	-	-
	3500	8240	7.14	8165	7.30	8088	7.46	8011	7.60	7864	7.90	7718	8.19	7559	8.48	7389	8.77	-	-
45°	1725	4464	1.13	4299	1.19	4116	1.26	3902	1.31	3421	1.40	-	-	-	-	-	-	-	-
	3500	9345	9.12	9250	9.17	9145	9.23	9066	9.44	8919	9.79	8747	9.95	8536	10.1	8376	10.4	8197	10.8

SIZE 21 08-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1725	2516	0.35	2006	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3500	5824	2.47	5572	2.62	5337	2.76	5130	2.91	4658	3.14	4142	3.39	-	-	-	-	-	-
40°	1725	5571	1.00	5111	1.09	4545	1.15	3413	1.12	-	-	-	-	-	-	-	-	-	-
	3500	11913	7.77	11719	7.96	11526	8.15	11327	8.34	10878	8.69	10423	9.04	9947	9.36	9339	9.57	8647	9.73
50°	1725	7172	1.78	6653	1.86	6051	1.90	-	-	-	-	-	-	-	-	-	-	-	-
	3500	15281	14.3	15045	14.5	14815	14.7	14851	14.9	14093	15.2	13564	15.5	13031	15.7	12401	15.9	11599	16.0

Performance certified is for installation Type B: Free inlet, Ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

Performance for Direct Drive Vaneaxial Fixed Pitch Fans

SIZE 21 12-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1725	3767	0.55	3595	0.72	3412	0.82	3139	0.91	-	-	-	-	-	-	-	-	-	-
	3500	7897	4.20	7811	4.55	7731	4.79	7653	5.04	7482	5.51	7314	5.94	7115	6.35	6950	6.76	6757	7.19
40°	1725	6758	1.78	6537	1.91	6292	2.01	6052	2.14	5327	2.27	-	-	-	-	-	-	-	-
	3500	14032	14.0	13929	14.3	13827	14.5	13724	14.8	13513	15.4	13291	15.86	13049	16.3	12807	16.7	12576	17.2
45°	1725	5482	2.52	5362	2.61	5239	2.67	5111	2.76	4800	2.88	4433	2.96	3603	2.82	-	-	-	-
	3500	-	-	11247	20.7	11189	20.8	11132	21.0	11012	21.4	10893	21.8	10783	22.0	10651	22.3	10528	22.6

SIZE 21 16-16

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
35°	1725	4007	1.34	3910	1.42	3819	1.51	3709	1.60	3438	1.75	2866	1.74	-	-	-	-	-	-
	3500	8296	10.7	8245	10.9	8190	11.0	8137	11.2	8039	11.6	7945	11.9	7852	12.1	7764	12.5	7668	12.9
40°	1725	4756	1.77	4640	1.85	4536	1.94	4427	2.04	4140	2.18	3777	2.28	-	-	-	-	-	-
	3500	9807	14.2	9759	14.4	9709	14.6	9657	14.8	9538	15.1	9425	15.4	9334	15.9	9224	16.2	9121	16.6
45°	1725	6930	4.04	6808	4.13	6650	4.16	6488	4.18	6163	4.29	5767	4.33	5295	4.37	-	-	-	-
	3500	14241	33.2	14179	33.3	14123	33.5	14067	33.7	13955	34.2	13828	34.5	13681	34.6	13520	34.7	13360	34.8

SIZE 24 12-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	3619	0.31	2908	0.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1750	5945	0.91	5617	1.06	5246	1.19	4793	1.31	3491	1.42	-	-	-	-	-	-	-	-
40°	1150	6590	0.92	5879	1.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1750	10523	3.04	10147	3.20	9758	3.40	9279	3.55	8105	3.76	-	-	-	-	-	-	-	-
45°	1150	7373	1.27	6579	1.36	5833	1.36	-	-	-	-	-	-	-	-	-	-	-	-
	1750	11772	4.31	11351	4.43	10920	4.60	10391	4.73	9054	4.80	-	-	-	-	-	-	-	-

SIZE 24 16-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	3641	0.32	3383	0.43	3045	0.53	-	-	-	-	-	-	-	-	-	-	-	-
	1750	5728	0.99	5586	1.10	5437	1.23	5267	1.39	4889	1.69	4217	2.01	-	-	-	-	-	-
40°	1150	6506	1.18	6213	1.29	5888	1.40	5456	1.47	-	-	-	-	-	-	-	-	-	-
	1750	10155	3.93	9962	4.10	9768	4.27	9575	4.43	9178	4.77	8679	5.05	8056	5.24	-	-	-	-
45°	1150	7345	1.46	7016	1.56	6691	1.66	6234	1.73	-	-	-	-	-	-	-	-	-	-
	1750	11467	4.93	11247	5.08	11028	5.24	10812	5.39	10383	5.69	9894	5.97	9211	6.17	-	-	-	-

SIZE 27 12-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	4400	0.39	3562	0.48	2415	0.51	1531	0.55	-	-	-	-	-	-	-	-	-	-
	1750	7296	1.15	6832	1.32	6349	1.48	5800	1.61	4250	1.74	3132	1.89	1726	1.92	-	-	-	-
40°	1150	9008	1.32	8111	1.45	6986	1.53	-	-	-	-	-	-	-	-	-	-	-	-
	1750	14299	4.36	13843	4.58	13340	4.80	12736	4.97	11377	5.28	9217	5.27	-	-	-	-	-	-
45°	1150	10092	1.87	9092	1.96	7845	2.01	-	-	-	-	-	-	-	-	-	-	-	-
	1750	16060	6.35	15535	6.55	14957	6.66	14312	6.85	12778	7.02	-	-	-	-	-	-	-	-

SIZE 27 16-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	5637	0.60	5305	0.76	4942	0.93	4442	1.09	-	-	-	-	-	-	-	-	-	-
	1750	8829	1.87	8640	2.06	8443	2.29	8226	2.54	7750	3.00	7171	3.59	-	-	-	-	-	-
40°	1150	9884	1.99	9439	2.16	8939	2.30	8313	2.42	-	-	-	-	-	-	-	-	-	-
	1750	15390	6.62	15124	6.92	14855	7.21	14552	7.45	13937	7.93	13187	8.27	12332	8.67	11878	8.82	-	-
45°	1150	11283	2.73	10816	2.91	10292	3.05	9631	3.16	7573	3.12	-	-	-	-	-	-	-	-
	1750	17568	9.32	17266	9.56	16965	9.80	16657	10.1	16011	10.6	15219	10.9	14300	11.2	13244	11.4	11524	11.0

Performance certified is for installation Type B: Free inlet, Ducted outlet. Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).

Performance for Direct Drive Vaneaxial Fixed Pitch Fans

SIZE 27 20-16

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	4007	0.72	3830	0.84	3627	0.95	3366	1.04	-	-	-	-	-	-	-	-	-	-
	1750	6253	2.31	6134	2.49	6021	2.68	5905	2.85	5656	3.19	5352	3.49	4957	3.75	4302	3.90	-	-
40°	1150	6497	1.57	6277	1.71	6023	1.83	5747	1.94	4931	2.06	-	-	-	-	-	-	-	-
	1750	10077	5.28	9931	5.46	9795	5.68	9654	5.91	9325	6.26	8979	6.61	8592	6.93	8118	7.14	-	-
45°	1150	7836	2.52	7594	2.64	7315	2.73	7014	2.82	6225	2.92	-	-	-	-	-	-	-	-
	1750	12142	8.66	11976	8.81	11817	8.99	11659	9.18	11311	9.50	10930	9.78	10730	10.0	10038	10.2	9435	10.3

SIZE 29 12-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	4603	0.41	3587	0.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1750	7776	1.29	7190	1.44	6563	1.62	5919	1.77	-	-	-	-	-	-	-	-	-	-
40°	1150	9818	1.42	8779	1.56	7448	1.66	-	-	-	-	-	-	-	-	-	-	-	-
	1750	15596	4.67	15111	4.93	14502	5.14	13771	5.33	12297	5.78	10117	5.77	-	-	-	-	-	-
45°	1150	11458	2.15	10351	2.26	8838	2.27	-	-	-	-	-	-	-	-	-	-	-	-
	1750	18252	7.28	17633	7.50	17000	7.71	16269	7.89	14517	8.02	-	-	-	-	-	-	-	-

SIZE 29 16-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	6825	0.97	6460	1.16	6020	1.34	5412	1.49	-	-	-	-	-	-	-	-	-	-
	1750	10680	3.01	10458	3.31	10229	3.61	9989	3.90	9457	4.46	8785	4.97	7776	5.32	-	-	-	-
40°	1150	12172	2.79	11588	2.97	11031	3.15	10393	3.37	8198	3.50	-	-	-	-	-	-	-	-
	1750	18491	9.34	18627	9.72	18282	10.1	17892	10.4	17127	10.8	16366	11.49	15462	12.0	14305	12.4	-	-
45°	1150	13794	3.93	13169	4.05	12553	4.20	11840	4.36	9619	4.37	-	-	-	-	-	-	-	-
	1750	21458	13.5	21108	13.76	20725	14.0	20306	14.2	19488	14.6	18633	15.1	17615	15.5	16360	15.7	14275	15.3

SIZE 29 20-16

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	5547	1.07	5318	1.22	5081	1.39	4800	1.53	-	-	-	-	-	-	-	-	-	-
	1750	8629	3.43	8493	3.68	8329	3.95	8189	4.19	7875	4.69	7558	5.15	7152	5.55	6489	5.85	-	-
40°	1150	9978	2.75	9676	2.97	9358	3.13	9004	3.30	8133	3.53	-	-	-	-	-	-	-	-
	1750	15412	9.42	15239	9.62	15060	9.87	14853	10.3	14455	10.8	13993	11.3	13519	11.8	13012	12.2	-	-
45°	1150	11427	3.91	11083	4.06	10756	4.22	10375	4.35	9472	4.54	8139	4.61	-	-	-	-	-	-
	1750	17638	13.6	17448	13.8	17249	13.9	17010	14.1	16588	14.7	16096	15.1	15590	15.5	15015	15.7	14372	

SIZE 32 16-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	9498	1.13	8823	1.36	8009	1.61	-	-	-	-	-	-	-	-	-	-	-	-
	1750	14984	3.41	14583	3.84	14162	4.24	13713	4.57	12681	5.36	11493	5.91	-	-	-	-	-	-
40°	1150	17093	3.70	16315	3.99	15326	4.21	14278	4.41	-	-	-	-	-	-	-	-	-	-
	1750	26626	12.5	26159	12.9	25691	13.3	25174	13.8	24003	14.6	22608	15.2	21085	15.6	18609	15.6	-	-
45°	1150	20659	5.69	19332	5.80	17624	5.70	15066	5.30	-	-	-	-	-	-	-	-	-	-
	1750	32519	19.8	31697	20.0	30871	20.1	29997	20.3	27985	20.3	25518	19.9	-	-	-	-	-	-

SIZE 32 20-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1150	7481	1.28	7148	1.52	6807	1.74	6462	1.95	-	-	-	-	-	-	-	-	-	-
	1750	11692	4.05	11463	4.41	11219	4.78	11006	5.13	10570	5.82	10134	6.46	9606	7.11	8768	7.55	-	-
40°	1150	14812	4.25	14451	4.51	14024	4.80	13514	5.12	12505	5.57	11163	5.98	-	-	-	-	-	-
	1750	22406	13.5	22118	14.0	21866	14.4	21626	14.7	21106	15.5	20399	16.6	20092	17.0	19196	18.0	18320	18.7
45°	1150	16671	5.78	16264	6.02	15774	6.26	15226	6.53	14070	6.91	12586	7.24	-	-	-	-	-	-
	1750	25763	19.8	25459	20.2	25185	20.6	24919	21.0	24341	21.7	23602	22.5	22943	23.3	22278	23.9	21360	24.4

Performance certified is for installation Type B: Free inlet, Ducted outlet. Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).

Performance for Direct Drive Vaneaxial Fixed Pitch Fans

SIZE 36 16-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	11553	1.37	10543	1.61	9580	1.86	-	-	-	-	-	-	-	-	-	-	-	-
	1750	18012	3.92	17354	4.42	16646	4.88	15986	5.20	14709	5.89	14021	6.30	-	-	-	-	-	-
40°	1175	22443	5.87	21419	6.25	20380	6.60	19052	6.78	15560	6.92	-	-	-	-	-	-	-	-
	1750	34299	18.8	33581	19.3	32876	19.8	32188	20.4	30847	21.5	29205	22.2	27253	22.7	25022	23.0	21944	22.6
45°	1175	24846	8.24	23690	8.51	22470	8.74	21003	8.86	-	-	-	-	-	-	-	-	-	-
	1750	37979	26.7	37180	27.1	36395	27.5	35620	28.0	34031	28.7	32237	29.2	29951	29.3	27099	29.0	-	-

SIZE 36 20-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	11499	1.66	11088	1.95	10657	2.26	10166	2.63	8562	3.36	-	-	-	-	-	-	-	-
	1750	17459	5.01	17186	5.39	16911	5.82	16636	6.25	16068	7.16	15445	8.18	14685	9.43	13564	10.5	12347	11.4
40°	1175	22296	6.41	21720	6.82	21031	7.24	20361	7.67	18834	8.38	16852	8.84	-	-	-	-	-	-
	1750	33678	20.4	33291	21.0	32908	21.7	32522	22.3	31630	23.5	30711	24.8	29838	26.1	28877	27.3	27614	27.9
45°	1175	25149	9.46	24487	9.82	23777	10.2	23041	10.5	21454	11.1	19337	11.3	-	-	-	-	-	-
	1750	37995	30.6	37553	31.2	37105	31.7	36662	32.22	35737	33.3	34746	34.4	33764	35.4	32746	36.4	31457	36.9

SIZE 36 26-15

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	10720	3.14	10444	3.46	10168	3.77	9867	4.14	9192	4.67	8334	5.08	-	-	-	-	-	-
	1750	16194	9.80	16006	10.3	15820	10.8	15636	11.2	15265	12.2	14879	13.2	14449	14.3	14009	15.0	13495	15.73
40°	1175	19518	8.62	19187	9.02	18821	9.38	18413	9.67	17584	10.4	16631	11.0	15445	11.4	14170	11.8	-	-
	1750	29352	27.7	29119	28.3	28899	28.9	28677	29.5	28201	30.7	27669	31.6	27104	32.5	26548	33.6	25993	34.8
55°	1175	27969	19.2	27503	19.4	27059	19.6	26604	19.8	25673	20.3	24648	20.6	23384	20.8	22019	21.1	20172	21.1
	1750	42045	63.0	41726	63.3	41408	63.6	41094	63.9	40497	64.4	39890	65.0	39273	65.7	38651	66.4	38009	67.2

SIZE 38 16-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	11479	1.44	10541	1.73	9452	1.97	-	-	-	-	-	-	-	-	-	-	-	-
	1750	17956	4.25	17244	4.66	16586	5.13	15984	5.55	14563	6.27	13005	6.96	-	-	-	-	-	-
40°	1175	23474	5.96	22485	6.38	21229	6.72	19907	6.94	16187	7.15	-	-	-	-	-	-	-	-
	1750	35731	18.9	35098	19.6	34466	20.2	33800	20.8	32213	21.9	30404	22.6	28718	23.4	26432	24.0	22606	23.4
45°	1175	26201	8.77	25078	9.11	23745	9.38	22319	9.54	16859	8.97	-	-	-	-	-	-	-	-
	1750	39936	28.5	39182	28.9	38448	29.4	37694	29.9	35991	30.8	34082	31.3	32158	31.9	29193	31.9	-	-

SIZE 38 20-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	12222	2.26	11777	2.62	11317	3.00	10806	3.37	9406	3.96	7677	4.45	-	-	-	-	-	-
	1750	18566	6.84	18267	7.36	17968	7.88	17670	8,41	17061	9.53	16407	10.7	15647	11.7	14717	12.5	13615	13.4
40°	1175	24392	7.73	23723	8.24	23057	8.76	22394	9.28	20964	10.3	18989	10.9	-	-	-	-	-	-
	1750	36878	24.6	36428	25.4	35978	26.1	35524	26.9	34636	28.4	33740	30.0	32852	31.5	31915	33.0	30819	34.3
45°	1175	27796	11.5	27038	11.9	26289	12.4	25543	12.8	23942	13.6	21925	14.2	-	-	-	-	-	-
	1750	42019	37.1	41510	37.8	40997	38.5	40488	39.2	39485	40.4	38483	41.7	37474	43.0	36410	44.2	35230	45.2

SIZE 38 26-15

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	10823	2.60	10402	2.97	10011	3.30	9638	3.63	8739	4.23	-	-	-	-	-	-	-	-
	1750	16474	7.90	16183	8.48	15893	9.04	15613	9.57	15077	10.6	14573	11.6	14060	12.5	13479	13.4	12722	14.2
40°	1175	21083	7.41	20642	7.87	20199	8.31	19755	8.73	18834	9.58	17802	10.4	16384	11.0	-	-	-	-
	1750	31762	23.6	31465	24.3	31168	25.0	30874	25.7	30280	27.0	29683	28.3	29079	29.6	28462	30.8	27826	32.1
55°	1175	31646	19.9	31133	20.2	30561	20.6	29945	21.1	28696	21.6	27427	21.9	25918	22.3	24128	22.6	21578	22.4
	1750	47520	65.1	47204	65.5	46876	66.0	46530	66.5	45779	67.7	44962	69.0	44115	70.2	43275	71.1	42452	71.6

Performance certified is for installation Type B: Free inlet, Ducted outlet. Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).

Performance for Direct Drive Vaneaxial Fixed Pitch Fans

SIZE 42 20-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	18397	3.21	17550	3.74	16651	4.24	15601	4.71	13193	5.41	-	-	-	-	-	-	-	-
	1750	28082	9.66	27522	10.4	26958	11.2	26391	12.0	25207	13.5	23863	15.0	22419	16.2	20775	17.3	18995	18.1
40°	1175	35569	10.5	34534	11.0	33368	11.6	32240	12.2	30045	13.6	27101	14.4	-	-	-	-	-	-
	1750	53827	33.8	53130	34.5	52432	35.3	51735	36.1	50217	37.8	48660	39.5	47211	41.6	45770	43.8	44166	45.7
45°	1175	40513	15.9	39355	16.4	38135	16.9	36830	17.4	34178	18.3	31103	19.0	-	-	-	-	-	-
	1750	61292	51.8	60515	52.5	59730	53.1	58953	53.8	57370	55.2	55624	56.7	53857	58.1	52076	59.6	50260	61.1

SIZE 42 26-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	1175	20537	5.23	20169	5.66	19690	6.46	19187	7.23	18068	8.29	16788	9.37	14705	9.89	-	-	-	-
	1750	30884	16.5	30640	17.1	30392	17.8	30148	18.4	29541	20.6	28874	23.0	28178	25.0	27429	26.5	26633	27.9
40°	1175	36553	16.4	36011	17.1	35472	17.7	34938	18.4	33842	19.9	32678	21.5	31181	22.7	29562	23.9	27466	24.7
	1750	54884	52.8	54520	53.9	54156	54.9	53792	55.9	53070	57.9	52348	60.0	51626	62.0	50904	64.0	50136	66.5
55°	1175	52890	42.2	52214	42.6	51539	43.1	50870	43.6	49539	44.5	48220	45.3	46914	46.2	45193	47.2	42849	47.4
	1750	79332	139	78876	139	78421	140	77966	141	77064	142	76153	143	75261	145	74369	146	73477	147

SIZE 48 20-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	875	15217	1.63	13340	1.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1175	21647	3.55	20179	4.02	18838	4.44	17284	4.98	15774	5.27	-	-	-	-	-	-	-	-
40°	875	33851	6.69	31721	7.30	29711	7.95	27538	8.47	-	-	-	-	-	-	-	-	-	-
	1175	46627	15.6	45162	16.4	43588	17.2	41963	18.0	39027	19.7	35272	20.8	-	-	-	-	-	-
45°	875	48153	16.8	45748	17.1	43365	17.5	40425	17.6	-	-	-	-	-	-	-	-	-	-
	1175	66416	40.6	64250	40.7	62419	41.1	60805	41.8	56975	42.4	52650	43.2	46689	42.9	-	-	-	-

SIZE 48 26-12

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	875	21782	3.61	20648	4.26	19480	4.85	18207	5.37	14777	6.22	-	-	-	-	-	-	-	-
	1175	29891	8.06	29084	8.91	28240	9.80	27391	10.7	25620	12.2	23613	13.5	20762	14.6	18399	15.8	-	-
40°	875	40334	11.7	39202	12.4	37791	13.0	36466	13.7	33348	15.2	-	-	-	-	-	-	-	-
	1175	54821	27.5	54000	28.5	53186	29.5	52220	30.4	50151	32.0	48196	34.2	45946	36.2	42730	37.3	-	-
55°	875	54663	24.7	53135	25.0	51595	25.3	50018	25.9	46762	26.8	42079	27.3	-	-	-	-	-	-
	1175	74324	59.4	73185	59.8	72045	60.3	70906	60.7	68585	61.7	66247	63.1	63858	64.4	61064	65.5	57384	66.1

SIZE 54 26-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	875	31821	4.67	30239	5.60	28406	6.42	26543	7.09	21465	8.11	-	-	-	-	-	-	-	-
	1175	43636	10.3	42509	11.6	41350	12.8	40093	14.0	37292	16.1	34445	17.9	30511	19.3	25678	19.9	-	-
40°	875	60162	17.0	58487	17.8	56439	18.7	54072	19.5	49283	21.2	41663	21.7	-	-	-	-	-	-
	1175	81801	40.2	80544	41.3	79297	42.4	78029	43.5	74850	45.9	70893	47.7	67407	50.1	64177	52.6	57757	52.6
55°	875	79202	37.8	76877	38.0	74570	38.2	71642	38.4	65132	38.9	53897	37.5	-	-	-	-	-	-
	1175	107765	91.3	106014	91.5	104287	91.8	102548	92.0	99010	92.6	94430	93.4	89544	93.9	84536	94.4	77887	92.7

SIZE 60 26-09

Blade Angle	RPM	¼"SP		½"SP		¾"SP		1"SP		1½"SP		2"SP		2½"SP		3"SP		3½"SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
25°	875	35342	4.99	32699	5.82	30632	6.60	28038	7.36	-	-	-	-	-	-	-	-	-	-
	1175	48988	11.0	47046	12.4	44926	13.5	43302	14.5	40078	16.6	36157	18.5	-	-	-	-	-	-
40°	875	73173	23.1	71121	24.6	69009	26.1	66720	27.5	60969	29.3	53823	30.5	-	-	-	-	-	-
	1175	99497	54.5	97967	56.4	96436	58.4	94894	60.4	91691	64.3	88100	67.8	83815	70.1	79023	71.9	73654	73.6
55°	875	93080	48.8	89713	49.1	86490	49.6	83515	50.3	78608	52.8	69477	52.7	-	-	-	-	-	-
	1175	127032	118	124508	118	121983	119	119500	119	114798	121	110650	123	107113	126	102855	129	94809	128

Performance certified is for installation Type B: Free inlet, Ducted outlet. Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).

Material Specifications

Dimensions in inches. Weights in pounds. WR^2 in lb.-ft.^{2}. Tolerance: ±1/8"

Size	Bushing	No. of blades	Wheel weight	Wheel WR^2	Housing Weight	Approximate Bare Fan Weight (Less Motor)				
						4D	4M	4R	4S	4V
16-12-12	SDS	12	22.8	4.8	92	120	140	155	120	120
18-08-09	SDS	9	14.0	2.3	70	85	105	125	85	90
18-12-12	SDS	12	25.5	6.8	103	135	155	170	135	135
21-08-09	SDS	9	15.0	3.0	85	100	125	145	100	100
21-12-12	SDS	12	27.8	8.8	120	150	180	195	150	155
21-16-16	Q1	16	57.0	24.5	155	215	250	260	215	215
24-12-09	SDS	9	28.3	10.0	130	160	195	210	160	165
24-16-12	Q1	12	58.5	29.0	175	235	275	285	240	240
27-12-09	SDS	9	30.0	12.3	145	175	215	230	175	180
27-16-12	Q1	12	65.0	37.8	200	265	310	320	265	265
27-20-16	Q1	16	91.0	68.0	255	350	405	405	350	350
29-12-09	SDS	9	31.3	13.5	153	190	230	250	190	195
29-16-12	Q1	12	66.5	42.5	210	280	330	340	280	285
29-20-16	Q1	16	94.5	75.0	270	365	425	425	370	370
32-16-09	Q1	9	68.5	47.5	220	290	350	375	190	295
32-20-12	Q1	12	106.5	90.0	296	410	470	490	405	410
36-16-09	Q1	9	74.5	61.0	255	330	395	430	330	335
36-20-12	Q1	12	116.0	115.0	339	460	530	560	460	465
36-26-15	R1	15	232.5	268.0	412	650	730	750	650	655
38-16-09	Q1	9	70.0	62.0	325	395	495	515	400	400
38-20-12	Q1	12	120.0	123.0	425	545	655	665	550	555
38-26-15	R1	15	205.5	250.0	515	720	845	840	725	730
42-20-09	Q1	9	131.0	141.0	449	585	705	705	585	590
42-26-12	R1	12	245.5	324.0	584	835	970	955	835	840
48-20-09	Q1	9	122.0	147.0	511	640	785	780	640	640
48-26-12	R1	12	258.5	394.0	680	940	1105	1080	940	945
54-26-09	R1	9	245.5	399.0	732	985	1175	1180	985	990
60-26-09	R1	9	260.0	460.0	820	1080	1315	1305	1080	1085

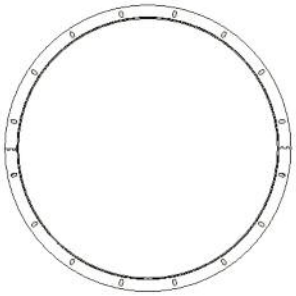
Wheel weight includes bushing.

†4R weights are for fan and curb cap. Does not include weights for stack hood.

Fan Access Section

Optional Fan Access Section can be mounted to the fan's inlet or outlet and allows access to the fan wheel and motor end bell. Panel behind removable door is partially cut and requires grinder to cut fixturing tabs before gaining access.

Size	Length	Cutout Size	Weight	Size	Length	Cutout Size	Weight
16-08-09	11½	7½	44	27-12-09	13	9	79
16-12-12	13	9	49	27-16-12	16	12	95
18-08-09	11½	7½	49	27-20-16	19¼	15¼	112
18-12-12	13	9	55	29-12-09	13	9	84
21-08-09	11½	7½	57	29-16-12	16	12	101
21-12-12	13	9	63	29-20-16	19¼	15¼	120
21-16-16	16	12	75	32-16-09	16	12	112
24-12-09	13	9	71	32-20-12	19¼	15¼	132
24-16-12	16	12	85				



MATERIAL SPECIFICATIONS

Dimensions in inches. Weights in pounds. WR^2 in lb.-ft.^{2}. Tolerance: ±1/8"

MOTOR SIZE CAPABILITY

Size	Maximum Frame Size
16-12-12	215TC
18-08-09	145TC
18-12-12	215TC
21-08-09	145TC
21-12-12	215TC
21-16-16	286TC
24-12-09	215TC
24-16-12	286TC
27-12-09	215TC
27-16-12	286TC
27-20-16	365TC
29-12-09	215TC
29-16-12	286TC
29-20-16	365TC
32-16-09	286TC
32-20-12	365TC
36-16-09	286TC
36-20-12	365TC
36-26-15	445T
38-16-09	286TC
38-20-12	365TC
38-26-15	445T
42-20-09	365TC
42-26-12	445T
48-20-09	365TC
48-26-12	445T
54-26-09	445T
60-26-09	445T

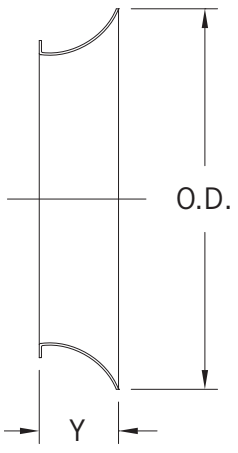
Maximum frame sizes are listed per size.

FAN FLANGE DIMENSIONS

Size	Flange Gauge	Fan I.D.	Bolting Circle	Flange O.D.	Flange Slots*	
					No.	Size
16-12-12	7	16 1/4	18	19 5/8	8	7/16 x 13/16
18-08-09	7	18 1/4	20	21 5/8	8	7/16 x 13/16
18-12-12	7	18 1/4	20	21 5/8	8	7/16 x 13/16
21-08-09	7	21 3/16	23	24 5/8	8	7/16 x 13/16
21-12-12	7	21 3/16	23	24 5/8	8	7/16 x 13/16
21-16-16	7	21 3/16	23	24 5/8	8	7/16 x 13/16
24-12-09	7	24 3/8	26 1/8	27 3/4	8	7/16 x 13/16
24-16-12	7	24 3/8	26 1/8	27 3/4	8	7/16 x 13/16
27-12-09	7	27 3/8	29 1/8	30 3/4	8	7/16 x 13/16
27-16-12	7	27 3/8	29 1/8	30 3/4	8	7/16 x 13/16
27-20-16	7	27 3/8	29 1/8	30 3/4	8	7/16 x 13/16
29-12-09	7	29 3/16	31	32 5/8	16	7/16 x 13/16
29-16-12	7	29 3/16	31	32 5/8	16	7/16 x 13/16
29-20-16	7	29 3/16	31	32 5/8	16	7/16 x 13/16
32-16-09	7	32 1/2	34 1/4	35 7/8	16	7/16 x 13/16
32-20-12	7	32 1/2	34 1/4	35 7/8	16	7/16 x 13/16
36-16-09	7	36 1/2	38 5/16	41	16	7/16 x 13/16
36-20-12	7	36 1/2	38 5/16	41	16	7/16 x 13/16
36-26-15	7	36 1/2	38 5/16	41	16	7/16 x 13/16
38-16-09	1/4	38	40 1/4	42 1/2	16	9/16 x 1
38-20-12	1/4	38	40 1/4	42 1/2	16	9/16 x 1
38-26-15	1/4	38	40 1/4	42 1/2	16	9/16 x 1
42-20-09	1/4	42 3/4	45	47 1/4	16	9/16 x 1
42-26-12	1/4	42 3/4	45	47 1/4	16	9/16 x 1
48-20-09	1/4	48 3/4	51	53 3/8	16	9/16 x 1
48-26-12	1/4	48 3/4	51	53 3/8	16	9/16 x 1
54-26-09	1/4	50 7/8	57 7/16	59 5/8	16	9/16 x 1
60-26-09	1/4	50 7/8	63 7/16	65 5/8	16	9/16 x 1

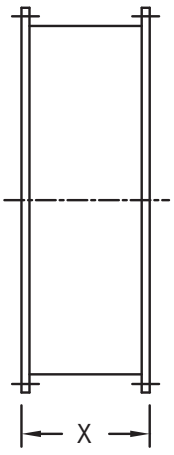
*Slots spaced equally, straddling centerline.

INLET BELL DIMENSIONS



Size	Y	O.D.
16	2 15/16	21 3/4
18	3 3/16	24 1/4
21	3 11/16	28 1/4
24	4 1/16	32 1/8
27	4 11/16	36 3/8
29	5	38 7/8
32	5 3/4	43 1/2
36	6 1/4	48 1/2
38	6 5/8	50 7/8
42	7 1/4	56 3/4
48	8 1/4	64 3/4
54	9 1/8	73
60	10 1/8	81

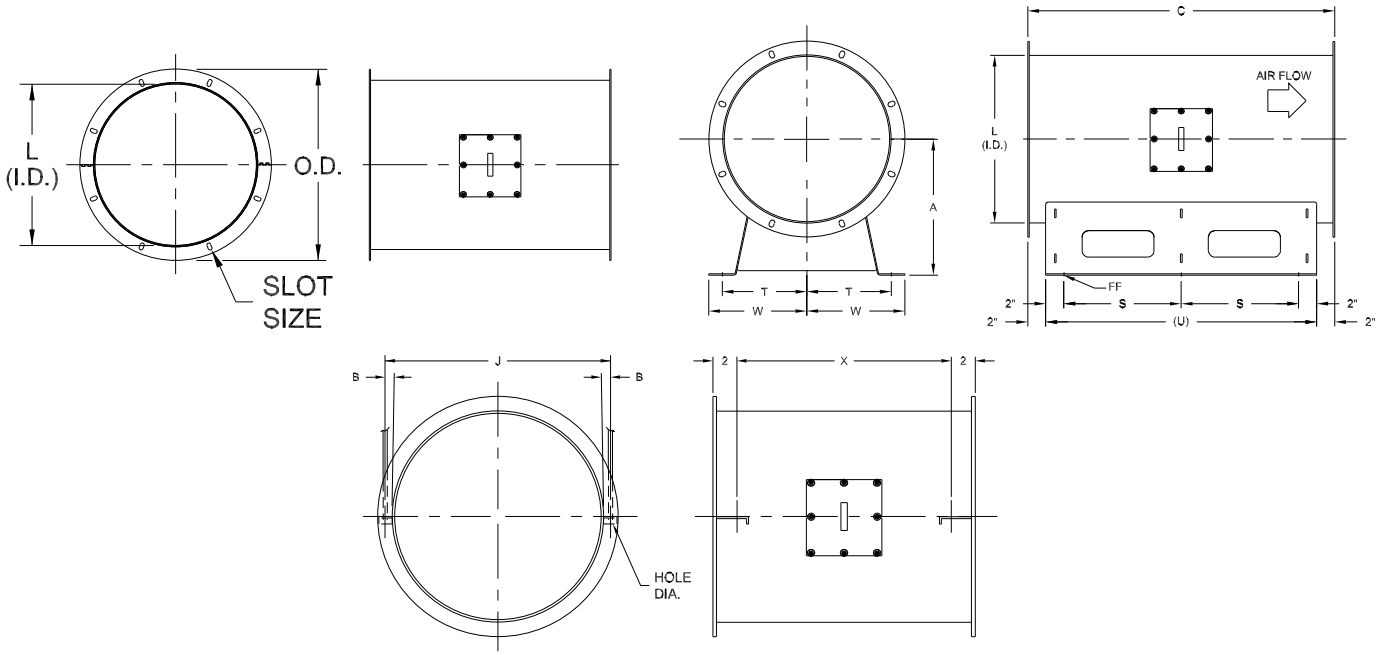
INLET VANE DAMPER DIMENSIONS



Size	X	
	Type A	Type B
16	9	12
18	10	12
21	10	12
24	10	12
27	10	12
29	10	12
32	10	12
36	10	12
38	10	12
42	11	12
48	11	12
54	11	12
60	12	12

DIMENSIONS

ARRANGEMENTS 4-M, 4-S, AND 4-D



DIMENSIONS [INCHES]

Size	General	
	C	L
16-12-12	25½	16¼
18-08-09	19¼	18¼
18-12-12	25½	18¼
21-08-09	19¼	21 3/16
21-12-12	25½	21 3/16
21-16-16	34¼	21 3/16
24-12-09	25½	24⅜
24-16-12	34¼	24⅜
27-12-09	25½	27⅜
27-16-12	34¼	27⅜
27-20-16	40¾	27⅜
29-12-09	25½	29 3/16
29-16-12	34¼	29 3/16
29-20-16	40¾	29 3/16
32-16-09	34¼	19¼
32-20-12	40¾	25½
36-16-09	34¼	36⅞
36-20-12	40¾	40⅞
36-26-15	50⅞	40⅞
38-16-09	34¼	38½
38-20-12	40¾	44⅞
38-26-15	50⅞	46⅛
42-20-09	40¾	19¼
42-26-12	50⅞	25½
48-20-09	40¾	19¼
48-26-12	50⅞	25½
54-26-09	50⅞	55
60-26-09	50⅞	61

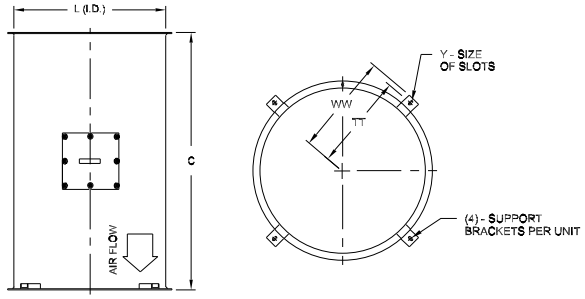
Size	Arrangement 4D				Arrangement 4S				Arrangement 4M					
	BC	Flange O.D.	Flange Slots		B	J	X	Mounting Hole Diam.	A	U	S	T	W	FF
			Qty.	Size										
16-12-12	18	19⅝	8	7/16x13/16	¾	18	21½	9/16	13½	21½	8¾	8 5/16	9 13/16	9/16
18-08-09	20	21⅝	8	7/16x13/16	¾	20	15¼	9/16	15	15¼	5⅝	9 5/16	10 13/16	9/16
18-12-12	20	21⅝	8	7/16x13/16	¾	20	21½	9/16	15	21½	8¾	9 5/16	10 13/16	9/16
21-08-09	23	24⅝	8	7/16x13/16	¾	23	15¼	9/16	16½	15¼	5⅝	10 13/16	12 5/16	9/16
21-12-12	23	24⅝	8	7/16x13/16	¾	23	21½	9/16	16½	21½	8¾	10 13/16	12 5/16	9/16
21-16-16	23	24⅝	8	7/16x13/16	¾	23	30¼	9/16	16½	30¼	13⅛	10 13/16	12 5/16	9/16
24-12-09	26⅛	27¾	8	7/16x13/16	¾	26⅛	21½	9/16	18½	21½	8¾	12⅜	13⅞	9/16
24-16-12	26⅛	27¾	8	7/16x13/16	¾	26⅛	30¼	9/16	18½	30¼	13⅛	12⅜	13⅞	9/16
27-12-09	29⅛	30¾	8	7/16x13/16	¾	29⅛	21½	9/16	20½	21½	8¾	13⅞	15⅜	9/16
27-16-12	29⅛	30¾	8	7/16x13/16	¾	29⅛	30¼	9/16	20½	30¼	13⅛	13⅞	15⅜	9/16
27-20-16	29⅛	30¾	8	7/16x13/16	¾	29⅛	36¾	9/16	20½	36¾	16⅜	13⅞	15⅜	9/16
29-12-09	31	32⅝	16	7/16x13/16	¾	31	21½	9/16	22	21½	8¾	14 13/16	16 5/16	9/16
29-16-12	31	32⅝	16	7/16x13/16	¾	31	30¼	9/16	22	30¼	13⅛	14 13/16	16 5/16	9/16
29-20-16	31	32⅝	16	7/16x13/16	¾	31	36¾	9/16	22	36¾	16⅜	14 13/16	16 5/16	9/16
32-16-09	34¼	35⅞	16	7/16x13/16	¾	34¼	30¼	9/16	23½	30¼	13⅛	16 7/16	17 15/16	9/16
32-20-12	34¼	35⅞	16	7/16x13/16	¾	34¼	36¾	9/16	23½	36¾	16⅜	16 7/16	17 15/16	9/16
36-16-09	38 5/16	41	16	9/16 x 1	1 1/16	38⅞	30¼	9/16	26	30¼	13⅛	19	20½	9/16
36-20-12	38 5/16	41	16	9/16 x 1	1 1/16	38⅞	36¾	9/16	26	36¾	16⅜	19	20½	9/16
36-26-15	38 5/16	41	16	9/16 x 1	1 1/16	38⅞	46⅞	9/16	26	46⅞	21 7/16	19	20½	9/16
38-16-09	40¼	42½	16	9/16 x 1	1 1/16	40½	30¼	¾	27½	30¼	13⅛	19¾	21¼	9/16
38-20-12	40¼	42½	16	9/16 x 1	1 1/16	40½	36¾	¾	27½	36¾	16⅜	19¾	21¼	9/16
38-26-15	40¼	42½	16	9/16 x 1	1 1/16	40½	46⅞	¾	27½	46⅞	21 7/16	19¾	21¼	9/16
42-20-09	45	47¼	16	9/16 x 1	1 1/16	45¼	36¾	¾	30	36¾	16⅜	22⅛	23⅝	¾
42-26-12	45	47¼	16	9/16 x 1	1 1/16	45¼	46⅞	¾	30	46⅞	21 7/16	22⅛	23⅝	¾
48-20-09	51	53⅜	16	9/16 x 1	1 1/16	51¼	36¾	¾	33½	36¾	16⅜	25 3/16	26 11/16	¾
48-26-12	51	53⅜	16	9/16 x 1	1 1/16	51¼	46⅞	¾	33½	46⅞	21 7/16	25 3/16	26 11/16	¾
54-26-09	57 7/16	59⅝	16	9/16 x 1	1 1/16	57½	46⅞	¾	37½	46⅞	21 7/16	28 5/16	29 13/16	¾
60-26-09	63 7/16	65 7/16	16	9/16 x 1	1 1/16	63½	46⅞	¾	41½	46⅞	21 7/16	31 5/16	32 13/16	¾

The New York Blower Company has a policy of continual product improvement and reserves the right to change designs and specifications without notice.

DIMENSIONS

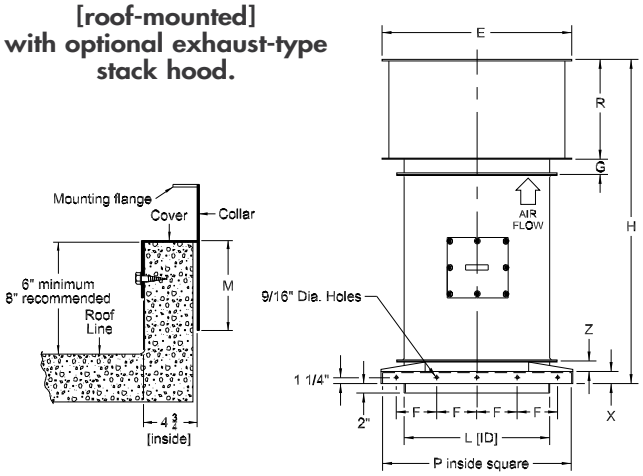
Dimensions should not be used for construction unless certified. See page 3 for available mounting positions. Note motor size capability on page 13. Tolerance: ±1/8".

ARRANGEMENT 4-V



ARRANGEMENT 4-R

[roof-mounted] with optional exhaust-type stack hood.



Size	General	
	C	L
16-12-12	25½	16¼
18-08-09	19¼	18¼
18-12-12	25½	18¼
21-08-09	19¼	21 3/16
21-12-12	25½	21 3/16
21-16-16	34¼	21 3/16
24-12-09	25½	24⅜
24-16-12	34¼	24⅜
27-12-09	25½	27⅜
27-16-12	34¼	27⅜
27-20-16	40¾	27⅜
29-12-09	25½	29 3/16
29-16-12	34¼	29 3/16
29-20-16	40¾	29 3/16
32-16-09	34¼	19¼
32-20-12	40¾	25½
36-16-09	34¼	36⅞
36-20-12	40¾	40⅞
36-26-15	50⅞	40⅞
38-16-09	34¼	38½
38-20-12	40¾	44⅞
38-26-15	50⅞	46⅛
42-20-09	40¾	19¼
42-26-12	50⅞	25½
48-20-09	40¾	19¼
48-26-12	50⅞	25½
54-26-09	50⅞	55
60-26-09	50⅞	61

Size	Arrangement 4V				Arrangement 4R								
	TT	WW	Y	Slot Size	E	F	G	H	M	P	R	X	Z
16-12-12	11½	12¾	3	9/16 x 1	23⅛	5	3 3/16	49⅛	4½	26¼	16	2½	1 15/16
18-08-09	12 1/82	13¾	3	9/16 x 1	25⅛	5½	3 3/16	44⅞	4½	28⅛	18	2½	1 15/16
18-12-12	12½	13¾	3	9/16 x 1	25⅛	5½	3 3/16	51⅛	4½	28⅛	18	2½	1 15/16
21-08-09	13⅞	15⅛	3	9/16 x 1	28⅛	6	3 3/16	47⅞	4½	31⅛	21	2½	1 15/16
21-12-12	13⅞	15⅛	3	9/16 x 1	28⅛	6	3 3/16	54⅛	4½	31⅛	21	2½	1 15/16
21-16-16	13⅞	15⅛	3	9/16 x 1	28⅛	6	3 3/16	62⅞	4½	31⅛	21	2½	1 15/16
24-12-09	15½	16¾	3	9/16 x 1	31⅛	7	8 3/16	61⅛	4½	34¼	23	2½	1 15/16
24-16-12	15½	16¾	3	9/16 x 1	31⅛	7	8 3/16	69⅞	4½	34¼	23	2½	1 15/16
27-12-09	17	18¼	3	9/16 x 1	34⅛	8	8 3/16	63⅛	4½	37¼	25	2½	1 15/16
27-16-12	17	18¼	3	9/16 x 1	34⅛	8	8 3/16	71⅞	4½	37¼	25	2½	1 15/16
27-20-16	17	18¼	3	9/16 x 1	34⅛	8	8 3/16	78⅜	4½	37¼	25	2½	1 15/16
29-12-09	18¾	20¼	4	¾ x 1½	36⅛	8½	8 3/16	64⅛	4½	39⅝	26	2½	1 15/16
29-16-12	18¾	20¼	4	¾ x 1½	36⅛	8½	8 3/16	72⅞	4½	39⅝	26	2½	1 15/16
29-20-16	18¾	20¼	4	¾ x 1½	36⅛	8½	8 3/16	79⅜	4½	39⅝	26	2½	1 15/16
32-16-09	20⅜	21⅞	4	¾ x 1½	39⅛	9	8 3/16	74⅜	5	41¾	26	3	2 15/16
32-20-12	20⅜	21⅞	4	¾ x 1½	39⅛	9	8 3/16	80⅞	5	41¾	26	3	2 15/16
36-16-09	22⅜	23⅞	4	¾ x 1½	43⅛	10½	8 3/16	79⅜	5	46⅜	31	3	2 15/16
36-20-12	22⅜	23⅞	4	¾ x 1½	43⅛	10½	8 3/16	85⅞	5	46⅜	31	3	2 15/16
36-26-15	22⅜	23⅞	4	¾ x 1½	43⅛	10½	8 3/16	96	5	46⅜	31	3	2 15/16
38-16-09	23⅛	24⅝	4	¾ x 1½	45⅛	11¼	8 3/16	80 7/16	5	49⅝	32	3	3
38-20-12	23⅛	24⅝	4	¾ x 1½	45⅛	11¼	8 3/16	86 15/16	5	49⅝	32	3	3
38-26-15	23⅛	24⅝	4	¾ x 1½	45⅛	11¼	8 3/16	97 1/16	5	49⅝	32	3	3
42-20-09	25½	27	4	¾ x 1½	47⅛	12	8 3/16	88 15/16	5	52¾	34	3	3
42-26-12	25½	27	4	¾ x 1½	47⅛	12	8 3/16	99 1/16	5	52¾	34	3	3
48-20-09	28½	30	4	¾ x 1½	56⅛	13	8 3/16	94 15/16	5	58¾	40	3	3
48-26-12	28½	30	4	¾ x 1½	56⅛	13	8 3/16	105 1/16	5	58¾	40	3	3
54-26-09	32¼	33¾	5	1 x 2	62⅛	14	8 3/16	108 1/16	5	65	43	3	3
60-26-09	35¼	36¾	5	1 x 2	62⅛	14½	8 3/16	112 1/16	5	71	47	3	3

The New York Blower Company has a policy of continual product improvement and reserves the right to change designs and specifications without notice.

Complete Selection of Air-Moving Equipment

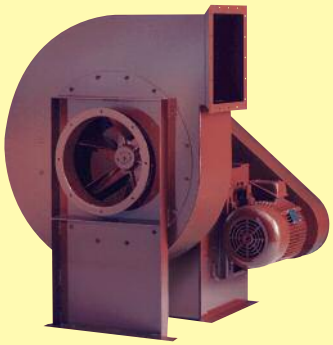
The New York Blower Company offers thousands of different types, models, and sizes of air-moving equipment. Contact your nyb representative for assistance in identifying the best fan for your application.

AIR-HANDLING [AXIAL]

For the ideal handling of clean to moderately dirty airstreams. Commercial and industrial HVAC, drying and cooling systems, fume extraction, and process-heat removal are typical applications.

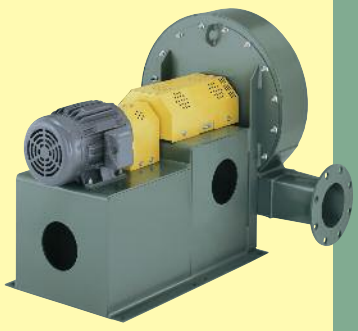
FIBERGLASS REINFORCED PLASTIC [FRP]

Choice of performance and duty for corrosive gas streams. Applications include chemical process, wastewater treatment, laboratory hood exhaust, and tank aeration.



DUST/MATERIAL HANDLING

Wide range of duty available with unique fan lines capable of handling light dust to heavy material. Typical applications include dust-collection and high-pressure process along with material-conveying.

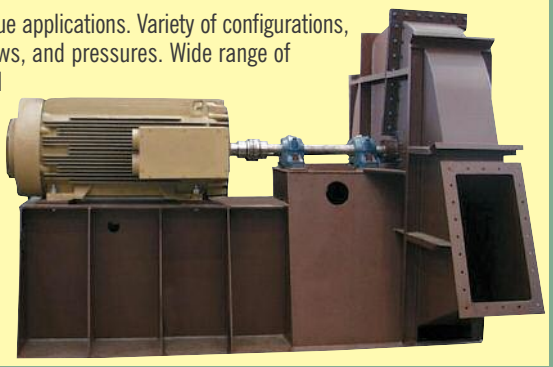


AIR-HANDLING [CENTRIFUGAL]

Designed for clean to moderately dirty gas streams. Commercial and industrial HVAC, process cooling, light material-conveying, heat removal, and dryer exhaust are just a few of the numerous sample applications

CUSTOM PRODUCTS

Designed for unique applications. Variety of configurations, temperatures, flows, and pressures. Wide range of modifications and accessories are available to meet the most demanding specifications.



Leading the industry forward since 1889

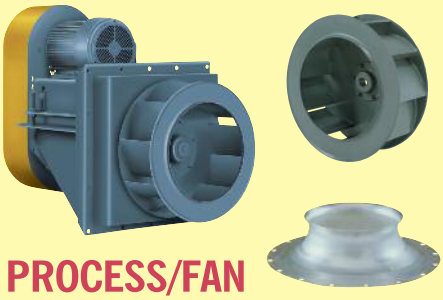
ROOF VENTILATORS

Including both hooded and upblast ventilators, propeller fans, and centrifugal roof exhausters. These units are ideal for industrial, commercial, and institutional applications.

nyb

HEATING PRODUCTS

Industrial-duty steam unit heaters with steam heating coils are available for facility heating and process-heat transfer.



PROCESS/FAN COMPONENTS

Plug fans, plenum fans, wheels, inlet cones, and housings for a wide variety of OEM applications. Process/fan components are used in air-handling units, ovens, dryers, freezer tunnels, and filtration systems.