ARRANGEMENT 4/4F/4H/4V SINGLE-WIDTH ACOUSTAFOIL/PLR FANS

Size 13 Class 2 PLR Arr. 4 Fan, CW rotation with top angular up discharge.

Size 22 Class 3 PLR Arr. 4V Fan, CW rotation.

APPLICATIONS

With three classes to choose from, the Arrangement 4/4F/4H/4V Single-Width AcF/PLR Fans are ideally suited for a wide range of clean-air applications. They are typically used for: air-drying, product cooling, product drying, combustion air, supply and exhaust, fume control and on the clean-air side of dust collection systems.

DESIGN FEATURES

- Sixteen sizes . . . 10” to 49” wheel diameters.
- Pressures up to 34” WG.
- Capacities from 38,000 to 70,000 CFM.
- Operating temperature to 180°F. on Arrangement 4 fans.
- Operating temperatures to 120°F. on Arr. 4F/4H/4V fans.
- Efficiencies beyond 85%.
- Eliminates shaft and bearings for minimum maintenance.
- Choice of AcoustaFoil, PLR, or BC wheels.
- Unique inlet cone with airflow diverter improves fan efficiency.
- Narrow-width wheel designs permit higher speeds and pressures.

CONSTRUCTION FEATURES

Welded construction - heavy-gauge welded components provide structural strength and durability for extended service life in a wide range of applications.

Housing - continuously welded for the strongest possible construction.

Precision balancing - all AcoustaFoil, PLR, and BC wheels are dynamically balanced before final assembly. After assembly, all fans are fine-tune balanced on a rigid test fixture at the specified running speed.

Finish - two-coat paint system consisting of one prime coat and one finish coat of **nyb** green air-dried enamel.

Lifting eyes - standard on all models . . . sized and located for ease of handling.

Optional accessories - numerous fan accessories are available to meet application requirements including: motors, variable frequency drives [VFDs], inlet and outlet guards, flanged inlets and outlets, drains, outlet rainhoods and more. Consult your New York Blower representative for a complete list.

CS-135
Form 716 MJN

THE NEW YORK BLOWER COMPANY
7660 Quincy Street
Willowbrook, IL 60527-5530

Visit us on the Web: http://www.nyb.com
Phone: (800) 208-7918 Email: nyb@nyb.com

DIRECT-DRIVE FAN SELECTIONS

It is often most cost-effective to use direct-drive fans due to reduced bearing loads and maintenance. However, a major objection to direct-drive arrangements in the past was the inability to adjust fan speed if system requirements changed. With the advent of variable frequency drives [VFDs] the speed, and therefore performance of direct-drive fans can now be adjusted to meet varying process requirements. Dampers are also available when required.

ARRANGEMENT 4/4F/4H/4V FANS

With the fan wheel directly mounted on the motor shaft, speed limitations imposed by the fan's shaft and bearings are eliminated. In addition, fan maintenance is further reduced by the elimination of these components. The maximum temperature for Arrangement 4 fans is 180°F. The maximum temperature for Arr. 4F/4H/4V fans is 120°F. The Arrangement 4 fans utilize a foot-mounted motor, whereas the Arr. 4F/4H/4V fans utilize a c-face motor.

Size 24 Class 3 AcF Arr. 4 Fan, CW rotation with top horizontal discharge.

WHEEL SPEED VS. WIDTH

A major component in the determination of wheel maximum safe speed is blade strength. Narrower wheels are inherently stronger permitting higher wheel maximum safe speeds. The direct-drive performance curves shown on pages 3, 4, and 5 illustrate maximum performance capabilities with full-width wheels [solid lines] and maximum performance capabilities with narrow-width wheels [dotted lines] at 70°F. Final selection of direct-drive AcF/PLR Fans can only be optimized using **nyb** Electronic Catalog software.

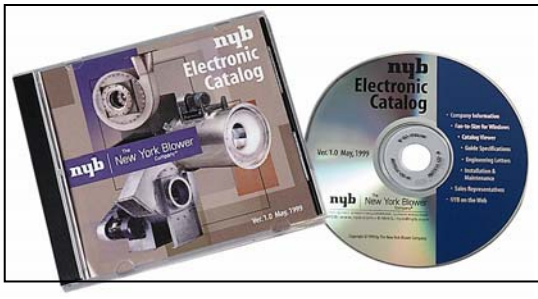
PRELIMINARY FAN SELECTION

Following the engineering and selection guidelines presented on page 6 and 7, use the corrected capacity [CFM] and pressure ["WG] to determine which AcF/PLR Fan sizes and classes can meet the performance requirements. The direct-drive performance curves on pages 3, 4, and 5 illustrate maximum pressures and capacities at 70°F. Any performance point under the curves can be attained using a VFD and reducing RPM. Generally, the smallest size and lowest class [CL. 2, CL. 3, CL. 4] will be the least expensive; however, a larger size and class will generally be more efficient requiring a less expensive motor and controls, as well as offer significant operating cost savings. To determine the optimum fan at a specific point of operation, **nyb** Electronic Catalog software must be used [see description below]. To obtain a copy contact your New York Blower sales representative or **nyb** at www.nyb.com.

CHART I
ARRANGEMENT 4/4F/4H/4V
UNIT SAFE SPEEDS [RPM]

Size	Class 2		Class 3		Class 4
	AcF	PLR	AcF	PLR	AcF/PLR
10	3600	3600	NA	NA	NA
12	3600	3600	NA	NA	NA
13	3600	3600	NA	NA	NA
15	3600	3600*	NA	NA	NA
16	3600*	3600*	3600	3600	NA
18	3600*	3600*	3600	3600*	OA
20	3600*	3550*	3600*	3600*	3600
22	3600*	3260*	3600*	3600*	3600*
24	3300*	2955*	3600*	3600*	3600*
27	2840*	2615*	3575*	3285*	3600*
30	2550*	2355*	3215*	2960*	OA
33	2330*	2140*	2940*	2690*	OA
36	2050*	1920*	2580*	2425*	3030*
40	1860*	1745*	2340*	2200*	2750*
44	1680*	1580*	2110*	1990*	2545*
49	1560*	1440*	1970*	1810*	2260*

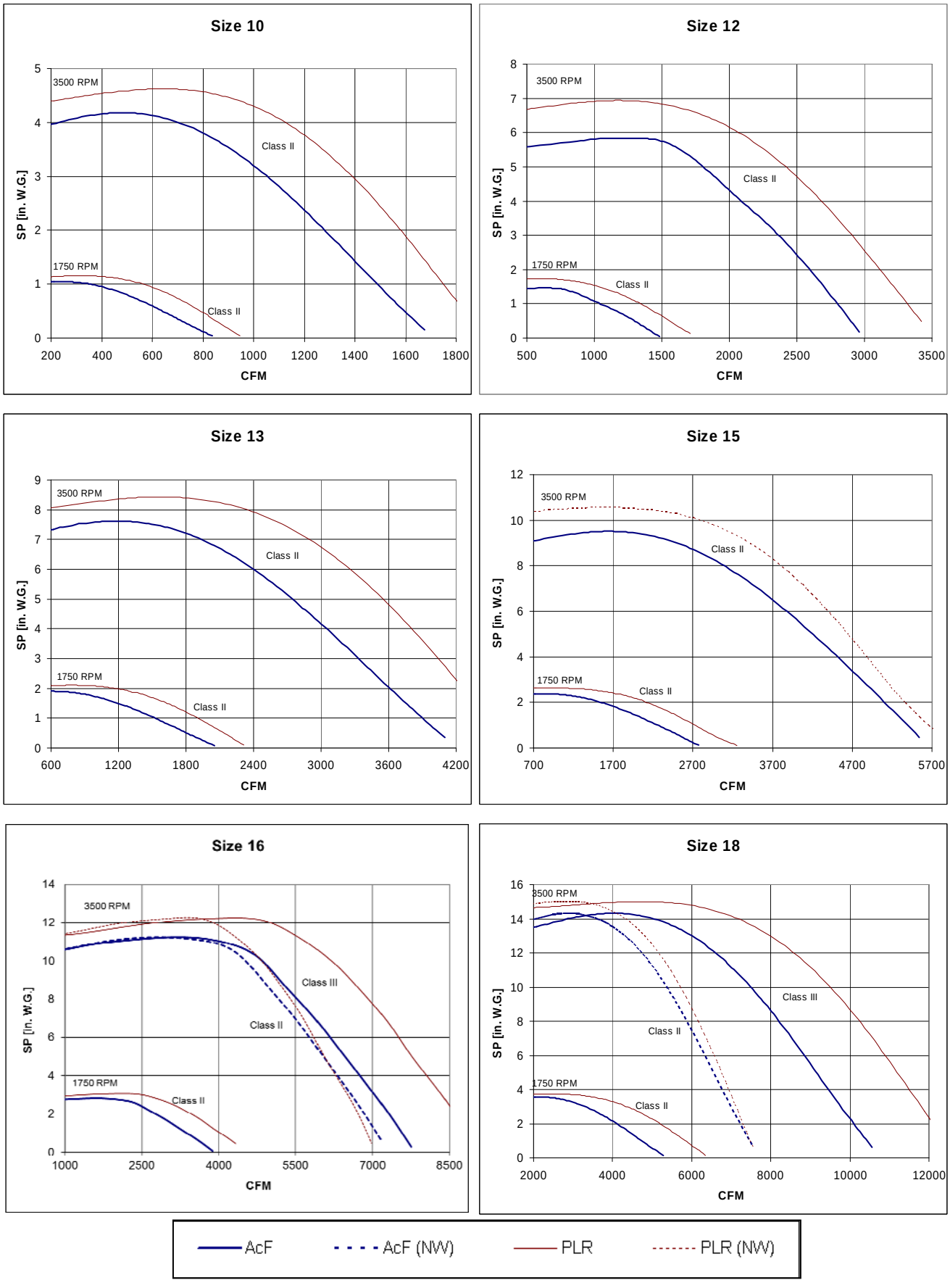
* Requires narrow-width wheel construction.
NA - Not Available OA - On Application



ELECTRONIC CATALOG

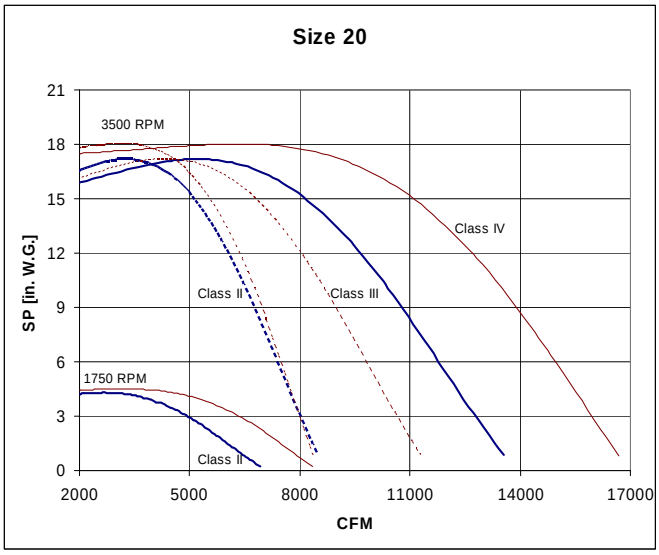
Fan-selection program corrects for altitude, temperature, rarefication, adjusts maximum safe speed for wheel width, and generates performance curves. Also includes complete product literature, guide specifications, installation and maintenance literature, Engineering Letters, web-site launch, and a listing of New York Blower sales representatives.

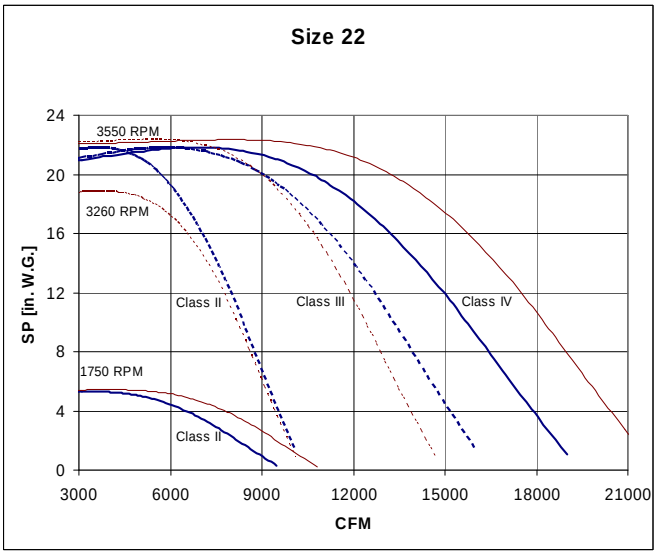
Arr. 4/4F/4H/4V AcF/PLR Direct Drive Curves

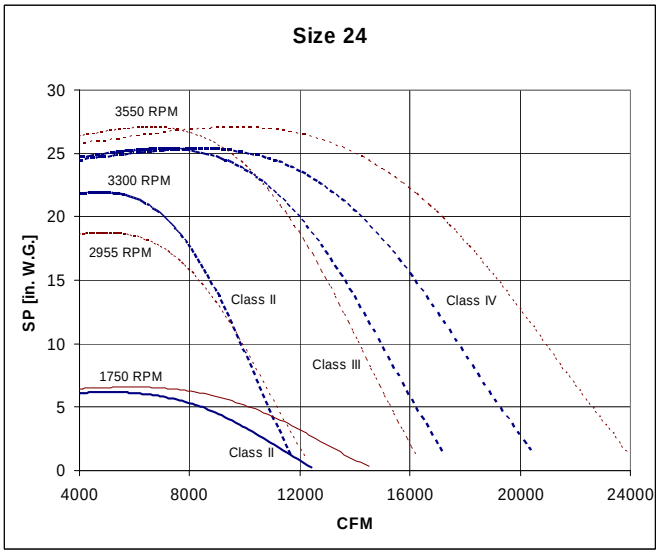


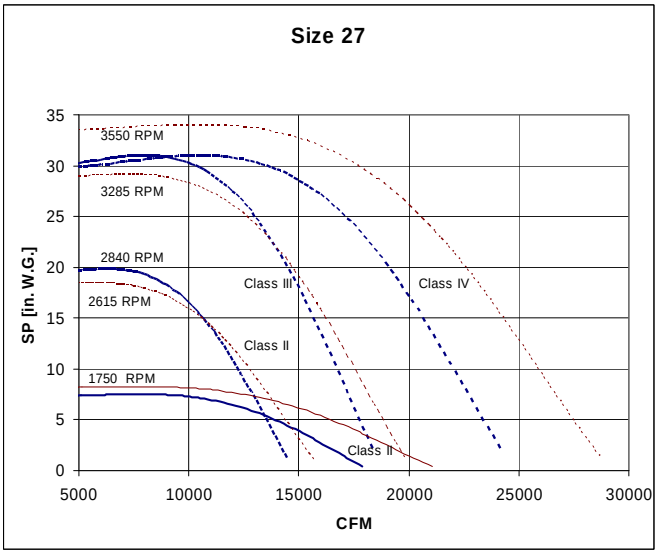
Solid lines are full-width wheels at maximum safe speeds at 70°F. up to nominal motor speed.
Dotted lines are narrow-width wheels at maximum safe speeds at 70°F. up to nominal motor speed.

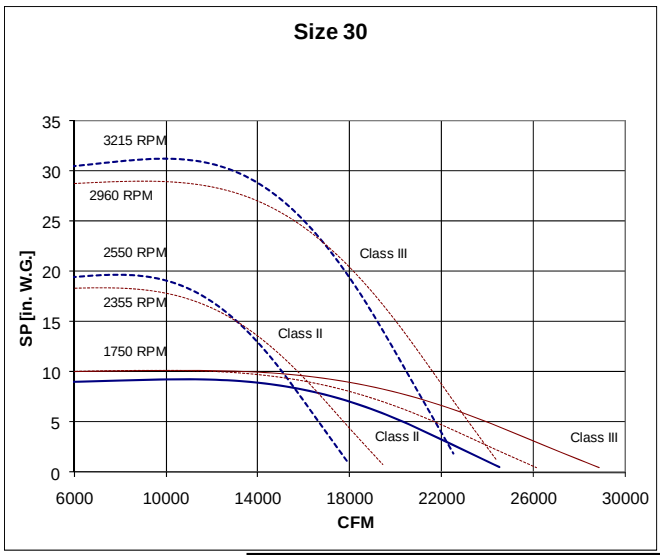
Arr. 4/4F/4H/4V AcF/PLR Direct Drive Curves

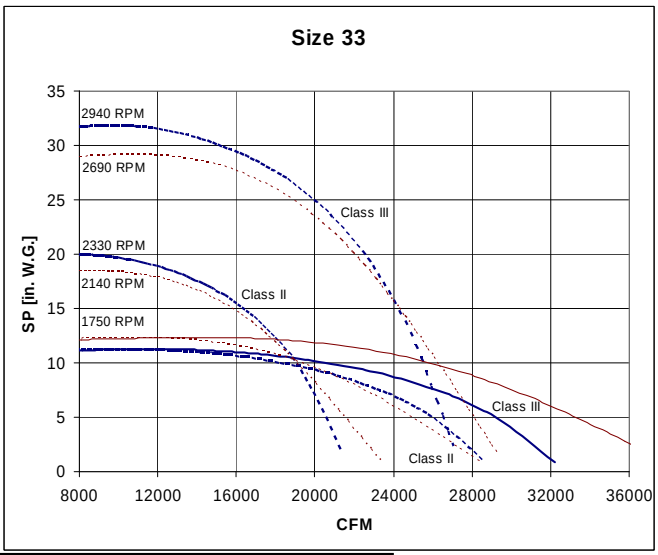






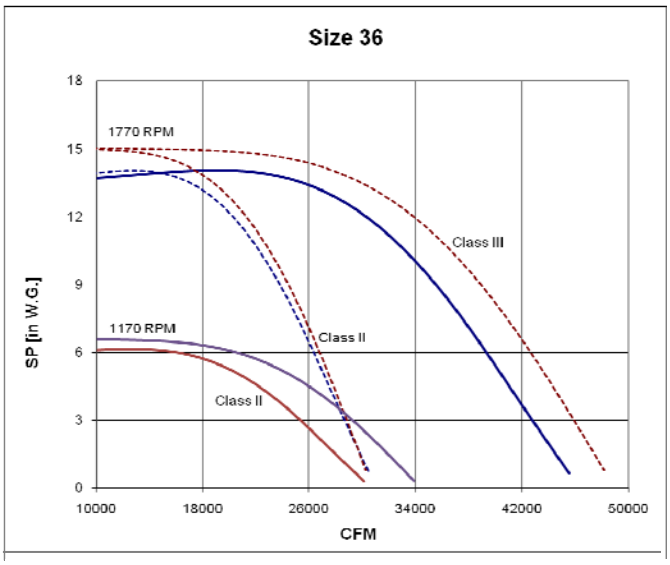


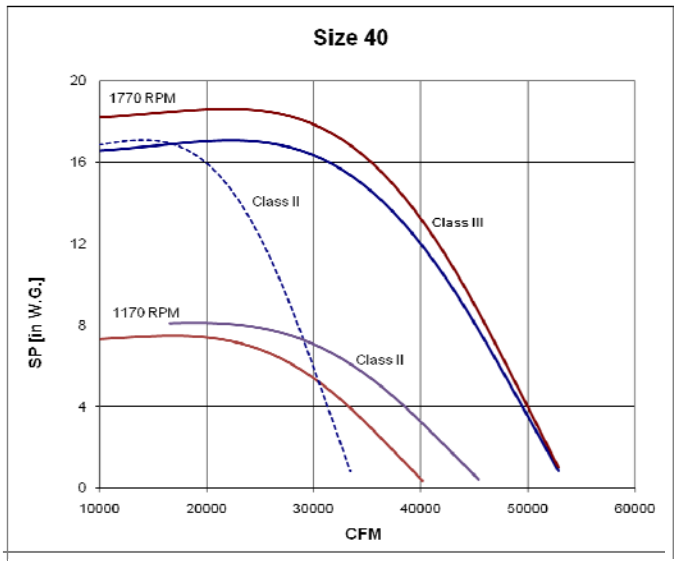


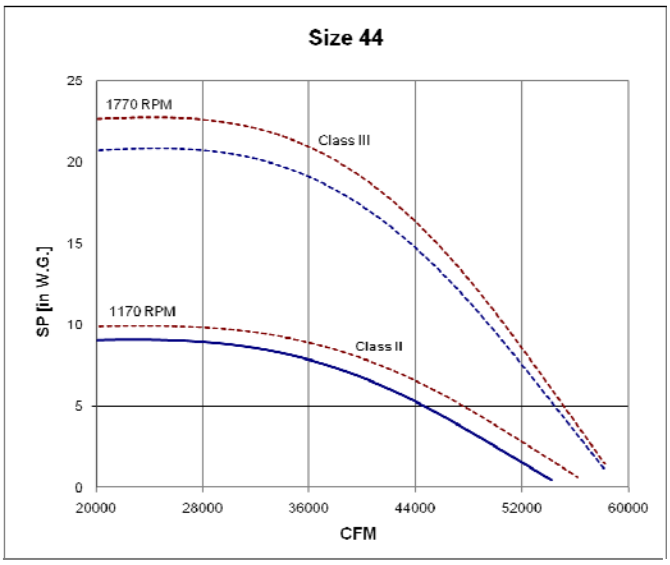


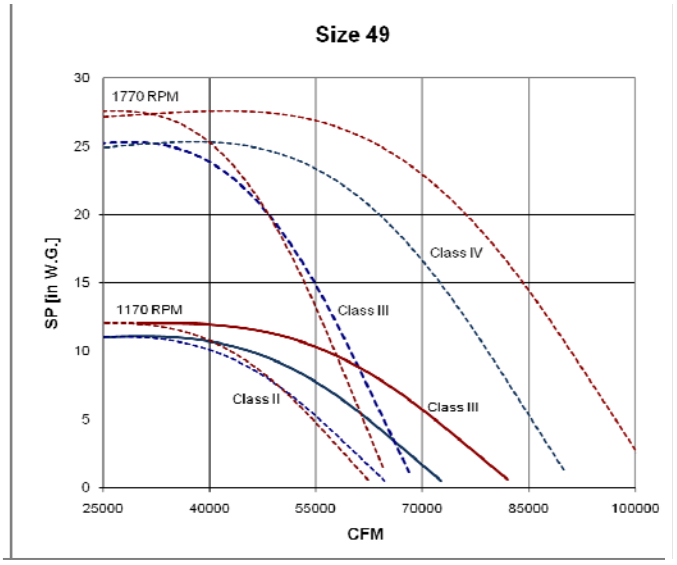
Solid lines are full-width wheels at maximum safe speeds at 70°F. up to nominal motor speed.
Dotted lines are narrow width-wheels at maximum safe speeds at 70°F. up to nominal motor speed.

Arr. 4 Direct Drive Curves





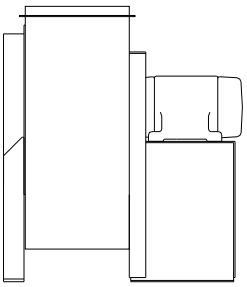




Solid lines are full-width wheels at maximum safe speeds at 70°F. up to nominal motor speed.
Dotted lines are narrow width-wheels at maximum safe speeds at 70°F. up to nominal motor speed.

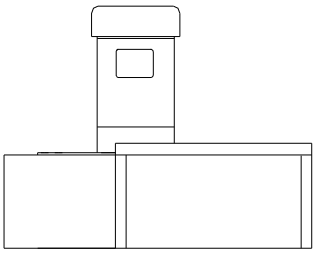
ARRANGEMENT 4/4F/4H/4V ENGINEERING AND SELECTION

ARRANGEMENT 4



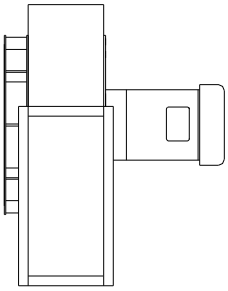
Max. Temp. 180°F.
Compact design.
Utilizes motor pedestal.

ARRANGEMENT 4F



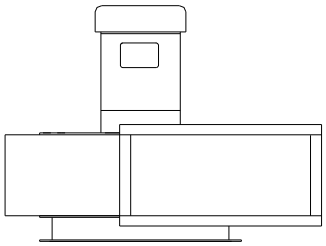
Max. Temp. 120°F.
Flush mounted by inlet to customer's mating surface.
(Up to size 33)

ARRANGEMENT 4H



Max. Temp. 120°F.
Mounted horizontally by inlet flange. (Up to size 22)

ARRANGEMENT 4V



Max. Temp. 120°F.
Mounted vertically by inlet flange (shaft down).
(Up to size 33)

GENERAL

The direct-drive performance curves shown in this catalog sheet will guide the designer to potential fan sizes and models. It is recommended that final selection be made using New York Blower's Electronic Catalog software and that a New York Blower sales representative be consulted for assistance in optimizing the selection.

CORRECTION FACTORS

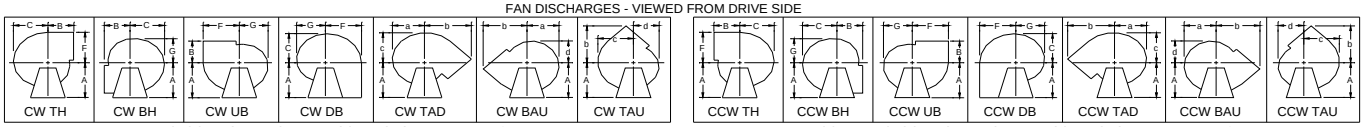
Fan performance is based on actual cubic feet per minute [ACFM] at the fan inlet at standard density [.075 lbs./ft.^{3}] and static pressure at the fan outlet. Static pressure capabilities are shown in inches water gauge ["WG].

Air-density corrections are necessary for proper selection when air density varies from the standard .075 lbs./ft.^{3} at 70°F. at sea level. This also occurs when negative static pressure exists [rarefication] on the inlet side of the fan. Multiply the required static pressure at operating conditions by the appropriate factors in Charts III, IV, and V to obtain the corrected static pressure for standard conditions. Pressure and BHP will be reduced at conditions by the inverse of these factors. Multiply one factor by the other if temperature, altitude, and rarefication are non-standard. For example: if the installation is located at an altitude of 4000 feet, the gas temperature is 120°F. and the inlet pressure is -20" WG, the correction factor is 1.33 [1.16 x 1.09 x 1.05].

CHART II
MOTOR FRAME SIZE LIMITATIONS FOR ARRANGEMENT 4/4F/4H/4V FANS †

Size	CL. 2	CL. 3	CL. 4	Size	CL. 2	CL. 3	CL. 4
10	56*	NA	NA	24	184T*	NA	NA
10	143/5T	NA	NA	24	213/5T	213/5T	213/5T
10	182T*	NA	NA	24	254/6T	254/6T	254/6T
12	56*	NA	NA	24	284/6T	284/6T	284/6T
12	143/5T	NA	NA	24	NA	284/6TS	284/6TS
12	182/4T	NA	NA	24	NA	324/6TS	324/6TS
13	143/5T	NA	NA	24	NA	364/6TS*	364/6TS*
13	182/4T	NA	NA	27	184T*	NA	NA
15	143/5T	NA	NA	27	213/5T	213/5T	213/5T
15	182/4T	NA	NA	27	254/6T	254/6T	254/6T
15	213/5T	NA	NA	27	284/6T	284/6T	284/6T
16	143/5T	143/5T	NA	27	324/6T*	324/6T*	324/6T*
16	182/4T	182/4T	NA	27	NA	324/6TS	324/6TS
16	213/5T	213/5T	NA	27	NA	364/5TS*	364/5TS*
16	254/6T	254/6T	NA	27	NA	404/5TS*	404/5TS*
18	143/5T	143/5T	OA	30	254/6T	254/6T	OA
18	182/4T	182/4T	OA	30	284/6T	284/6T	OA
18	213/5T	213/5T	OA	30	324/6T	324/6T	OA
18	254/6T	254/6T	OA	33	254/6T	254/6T	OA
18	284/6T	284/6T	OA	33	284/6T	284/6T	OA
18	284/6TS	284/6TS	OA	33	324/6T	324/6T	OA
20	182/4T	182/4T	182/4T	33	NA	364/5T*	OA
20	213/5T	213/5T	213/5T	36	284/6T	NA	NA
20	254/6T	254/6T	254/6T	36	324/6T	324/6T	NA
20	284/6T	284/6T	284/6T	36	364/5T	364/5T	364/5T
20	NA	284/6TS	284/6TS	36	NA	404/5T	404/5T
20	NA	324TS*	324TS*	40	324/6T	NA	NA
22	182/4T	182/4T	182/4T	40	364/5T	364/5T	364/5T
22	213/5T	213/5T	213/5T	40	404/5T	404/5T	404/5T
22	254/6T	254/6T	254/6T	40	NA	444/5T	444/5T
22	284/6T	284/6T	284/6T	44	364/5T	NA	NA
22	NA	284/6TS	284/6TS	44	404/5T	404/5T	404/5T
22	NA	324/6TS	324/6TS	44	444/5T	444/5T	444/5T
22	NA	364TS*	364TS*	44	NA	447T	447T
NA-Not Available				49	404/5T	NA	NA
OA-On Application				49	444/5T	444/5T	444/5T
*NA on Arr.4F/4H/4V fans				49	NA	447T	447T
† Arr. 4F/4H/4V fans use c-face motors							

FAN DISCHARGES - VIEWED FROM DRIVE SIDE



CLOCKWISE - ANGULAR DISCHARGES AT 45 °

COUNTERCLOCKWISE - ANGULAR DISCHARGES AT 45 °

Down Blast and Top Angular Down discharge positions must be evaluated for clearance of accessories such as outlet damper, etc. Consult **nyb** with specific details.

ARRANGEMENT 4/4F/4H/4V ENGINEERING AND SELECTION

CHART III — ALTITUDE [ft.] CORRECTIONS

Alt.	Factor
0	1.00
500	1.02
1000	1.04
1500	1.06
2000	1.08
2500	1.10
3000	1.12
3500	1.14
4000	1.16
4500	1.18
5000	1.20
5500	1.22
6000	1.25
7000	1.30
8000	1.35
9000	1.40
10000	1.45

CHART IV — TEMPERATURE CORRECTIONS

Temp. °F.	Factor
-25	.82
0	.87
20	.91
40	.94
60	.98
70	1.00
80	1.02
100	1.06
120	1.09
140	1.13
160	1.17
180	1.21

CHART V — RAREFICATION CORRECTIONS

Neg. inlet pressure "WG	Factor
15	1.04
20	1.05
25	1.07
30	1.08
35	1.09
40	1.11
45	1.12
50	1.14

CHART VI — TEMP. DERATES FOR WHEEL SAFE SPEEDS

Temp. °F	Wheel Material	
	Steel	Alum.
70	1.00	1.00
120	0.99	0.99
180	0.98	0.98

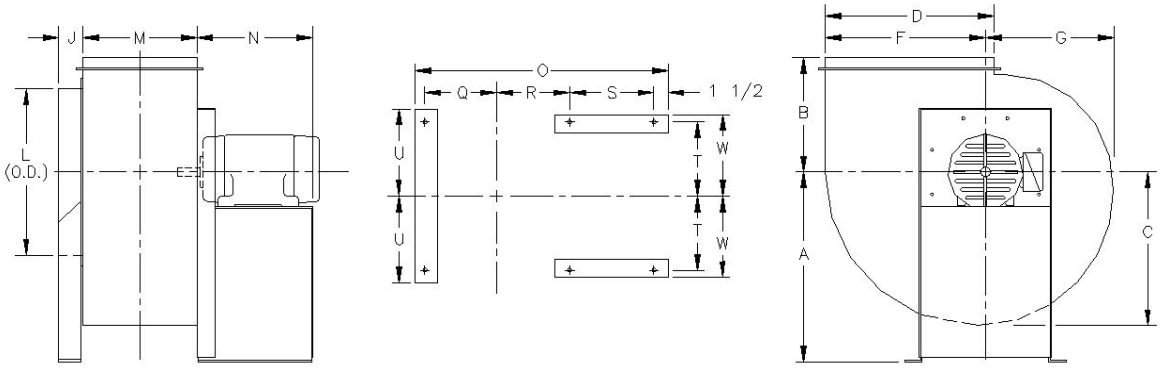
CHART VII — MAXIMUM WHEEL SAFE SPEEDS [RPM]† ACOUSTAFOIL AND PLR AT 70°F. [100% WIDTH]

Size	Class II		Class III		Class IV	
	AcF	PLR	AcF	PLR	AcF	PLR
10*	4900	5195	NA	NA	NA	NA
12*	4900	4270	NA	NA	NA	NA
13*	4330	3800	NA	NA	NA	NA
15*	3800	3360	NA	NA	NA	NA
16	3385	3090	4100	3830	NA	NA
18	3005	2735	3790	3525	OA	OA
20	2780	2510	3510	3200	3895	3895
22	2570	2305	3240	2900	3520	3520
24	2335	2090	2940	2635	3205	3205
27	2010	1850	2530	2325	2905	2905
30	1805	1665	2275	2095	OA	OA
33	1650	1515	2080	1905	OA	OA
36	1450	1360	1825	1715	2145	2145
40	1315	1235	1655	1555	1945	1945
44	1190	1120	1495	1410	1800	1800
49	1105	1020	1395	1280	1600	1600

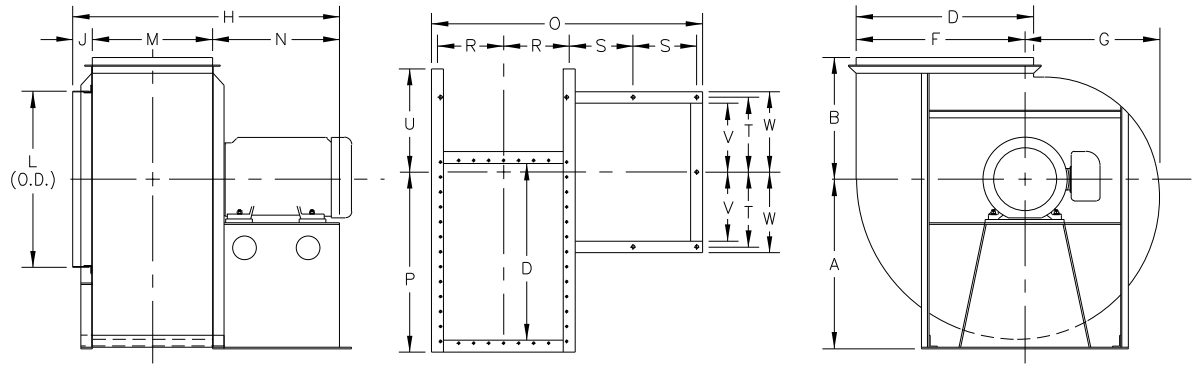
† Maximum safe speeds apply only to wheels operated at or below stated temperature and free of material build-up, corrosion or wear.
* Sizes 10-15 AcoustaFoil wheels are aluminum.
NA - Not Available OA - On Application

ARR. 4 DIMENSIONS [INCHES] Not to be used for construction unless certified.

Sizes 10-33, 36 Class 2



Sizes 36 Class 3/4, 40-49



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

ARR. 4 DIMENSIONS [INCHES] Not to be used for construction unless certified.

Size	Frame	A	B #	B TAD	B DB	C	D	F	G	J	L CL. 2	L CL. 3/4	M†	N
10	56 143/5T	12	8 1/2	10 1/2	12	10 1/8	11 1/4	10 5/8	8 1/2	2 1/2	10 1/2	--	8 1/8	9 7/8
	182T	13			13									
12	56 143/5T	15 1/2	10	13	15 1/2	12 3/8	13 5/8	13	10 3/8	2 1/8	13 1/2	--	9 3/8	10 7/8
	182/4T	16 1/2			16 1/2									
13	143/5T	15 1/2	11	15	15 1/2	13 5/8	15 1/8	14 1/4	11 3/8	2 1/8	14 7/8	--	10 3/8	10 7/8
	182/4T	16 1/2			16 1/2									
15	143/5T	17 1/2	12	16	17 1/2	15 1/8	16 3/4	15 7/8	12 5/8	3 1/8	16 1/2	--	11 3/8	13 1/8
	182/4T	18 1/2			18 1/2									
	213/5T	19 1/4			19 1/4									
16	143/5T	19 1/4	13	17	19 1/4	16 5/8	18 1/2	17 1/2	14	3 1/8	18 5/8	19	12 1/4	13 1/8
	182/4T	20 1/4			20 1/4									
	213/5T 254/6T	21			21									18 3/8
18	143/5T 182/4T	21 1/4	14	18	21 1/4	18 3/8	20 1/2	19 3/8	15 3/8	3 1/8	20	20 3/4	13 7/8	18 3/8
	213/5T	22			22									
	254/6T	23			23									
	284/6T 284/6TS	23 3/4			23 3/4									
20	182/4T	23 1/4	15 1/2	19 1/2	23 1/4	20 3/8	22 1/2	21 3/8	17	3 1/8	22 3/8	22 1/2	15	18 3/8
	213/5T	24			24									
	254/6T	25			25									
	284/6T 284/6TS	25 3/4			25 3/4									
	324TS	23 1/4			23 1/4									20 1/2
22	182/4T	25 1/2	17	21	25 1/2	22 1/2	24 7/8	23 5/8	18 3/4	3 1/8	24 1/2	25 1/8	16 7/8	18 3/8
	213/5T	26 1/4			26 1/4									
	254/6T	27 1/4			27 1/4									
	284/6T 284/6TS	28			28									
	324/6TS 364TS	26			26									20 1/2
														21 3/8
24	184T 213/5T	28	19	23	28	24 3/4	27 3/8	26	20 5/8	4 1/8	27	27 5/8	18 1/2	18 3/8
	254/6T	29			29									
	284/6T 284/6TS	29 3/4			29 3/4									
	324/6TS 364/5TS	28 5/8			28 5/8									20 1/2
														21 3/8
27 Cl. 2	184T 213/5T	30 1/2	20 1/2	24 1/2	30 1/2	27 1/4	30 1/4	28 5/8	22 3/4	4 1/8	30	30 1/4	20 3/8	18 3/8
	254/6T	31 1/2			31 1/2									
	284/6T 324/6T	32 1/4			32 1/4									20 1/8
27 Cl. 3/4	324/6T 324/6TS	31 1/8			31 1/8									20 1/2
	364/5TS													21 3/8
	404/5TS													23 5/8
30	254/6T	33 3/4	22 1/2	26 1/2	33 3/4	30 1/4	33 1/2	31 3/4	25 3/8	4 1/8	33	33 5/8	22 5/8	20 1/8
	284/6T 284/286TS	34 1/2			34 1/2									
	324/6T	35 1/2			35 1/2									
33	254/6T	37 3/4	24 1/2	28 1/2	37 3/4	33 3/8	36 7/8	35	28	4 1/8	36 1/2	36 7/8	24 7/8	20 1/8
	284/6T 284/286TS	38 1/2			38 1/2									
	324/6T	39 1/2			39 1/2									
	364/5T	37 3/4			37 3/4	33 1/2								21 3/8
36 Cl. 2	284/6T 324/6T	42	29	33	42	36 7/8	40 3/4	38 3/4	30 7/8	5	40	--	27	19
	324/6TS												27 1/2	20 1/2
	364/5T													21 3/8

#For TH, BH, UB, BAU, and TAU. DB fan discharge is extended to floor line. Standard outlet flange is supplied. J is from housing side over inlet collar. Tolerance ± 1/8" D, L, and M are outside dimensions. † Dimensions may vary with narrow-width construction. See Chart II on page 6 for motor frame size limitations by size and class.

ARR. 4 DIMENSIONS [INCHES] Not to be used for construction unless certified.

Size	Frame	O† Cl 2	O† Cl 3/4	Q† Cl 2	Q† Cl 3/4	R†	S	T	U	W	a	b BAU/TAU	b TAD	c	d	Base holes
10	56 143/5T 182T	21*	--	5 3/4*	--	6 3/8	5 7/8	6	7 1/8*	6 3/4	9 1/2	13 5/8	15	10 1/2	7 5/8	9/16
12	56 143/5T 182/4T	23 1/4*	--	6 3/8*	--	7	6 7/8	7 1/2	8 5/8*	8 1/4	11 5/8	16 1/4	18 3/8	12 7/8	9 1/4	9/16
13	143/5T 182/4T	24 1/4*	--	6 7/8*	--	7 1/2	6 7/8	7 1/2	8 5/8*	8 1/4	12 5/8	17 7/8	20 3/4	14 1/8	10 1/4	9/16
15	143/5T 182/4T 213/5T	27 1/2*	--	7 3/8*	--	8	9 1/8	8 3/4	10 1/2*	9 1/2	14 1/8	19 3/4	22 1/2	15 3/4	11 3/8	9/16
16	143/5T 182/4T 213/5T	28 3/8	28 1/2	7 7/8	8	8 1/2	9 1/8	8 3/4	10 1/2	9 1/2	15 1/2	21 5/8	24 1/2	17 1/4	12 1/2	9/16
	254/6T	33 3/4	33 3/4				14 3/8									
18	143/5T 182/4T 213/5T 254/6T 284/6T 284/6TS	35 1/4	35 3/8	8 5/8	8 3/4	9 1/4	14 3/8	10 3/8	11 1/2	11 1/8	17 1/4	23 5/8	26 1/2	19 1/8	13 7/8	9/16
20	182/4T 213/5T 254/6T 284/6T 284/6TS	36 3/8	36 1/2	9 1/4	9 3/8	9 7/8	14 3/8	10 3/8	11 1/2	11 1/8	18 7/8	26 1/8	29	21 1/8	15 1/4	9/16
	324TS	--	38 1/2	--	9 1/4		16 1/8	9 3/8	11 1/8	10 1/4						
22	182/4T 213/5T 254/6T 284/6T 284/6TS	38 1/4	38 3/8	10 1/8	10 1/4	10 3/4	14 3/8	10 3/8	11 1/2	11 1/8	21	28 3/4	31 1/2	23 1/4	16 3/4	9/16
	324/6TS	--	40 3/8	--			16 1/8	10 7/8	12 5/8	11 3/4						
	364TS		41 1/4				17									
24	184T 213/5T 254/6T 284/6T 284/6TS	39 7/8	40	11	11 1/8	11 5/8	14 3/8	12 1/4	13 1/2	13 1/2	23 1/8	31 7/8	34 5/8	25 5/8	18 1/2	3/4
	324/6TS	--	43	--	11 1/2		16 1/8		14 3/8							
	364/5TS		43 7/8				17									
27 Cl. 2	184T 213/5T 254/6T 284/6T	41 3/4	41 7/8	11 7/8	12	12 1/2	14 3/8	13 5/8	14 7/8	14 7/8	25 3/8	34 3/4	37 1/2	28 1/4	20 3/8	3/4
	324/6T	43 3/8	--		--		15 7/8									
27 Cl. 3/4	324/6T 324/6TS 364/5TS 404/5TS	--	44 7/8 45 3/4 48	--	12 1/2		16 1/8 17 19 1/4		15 1/2							
30	254/6T 284/6T 324/6T	45 5/8	45 3/4	13	13 1/8	13 3/4	15 7/8	14 3/4	16	16	28 1/4	38 3/8	41 1/4	31 3/8	22 5/8	3/4
33	254/6T 284/6T 324/6T	47 7/8	48	14 1/8	14 1/4	14 7/8	15 7/8	15 3/4	17	17	31 1/8	42 1/8	45	34 5/8	25 1/4	3/4
	364/5T	--	50 1/4	--	14 3/4		17	16	18 1/4	17 1/4						
36 Cl. 2	284/6T	49 1/4	--	15 3/16	--	15 7/8	14 5/8	17 1/2	19	19	34 3/8	47 7/8	47 7/8	38 1/4	27 1/2	3/4
	324/6T	51 1/4		15 7/16		16 1/8	16 1/8									
	364/5T	52 1/8					17									

*O, Q, and U dimension is given if inlet hanger option is selected. DB fan discharge is extended to floor line. Standard outlet flange is supplied. Tolerance ± 1/8"

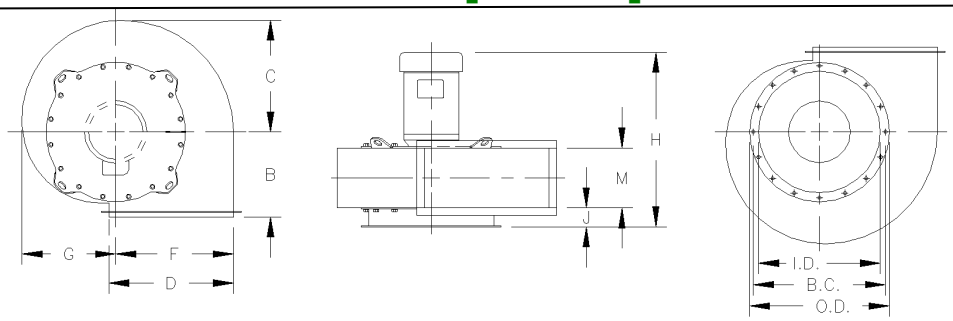
† Dimensions may vary with narrow-width construction. See Chart II on page 6 for motor frame size limitations by size and class.

ARR. 4 DIMENSIONS [INCHES] Not to be used for construction unless certified.

Size	Cl.	Motor Frame	A				B		C	D	F	G	H	J	L		M	
			TH, TAD	BH, BAU	UB, TAU	DB	*	TAD							Cl. 2	Cl. 3,4	Cl. 2	Cl. 3,4
36 (Cl. 3,4)	3	324T	33	42	39	29	29	41 3/4	36 7/8	40 3/4	38 3/4	30 7/8	52 1/2	5	--	41	--	27 1/2
		326T											54					
	3,4	364T											53 3/4					
		365T											54 3/4					
	3,4	404T											55 1/2					
		405T											57					
40	2	324T	36	46	43	31	31	45 1/4	40 3/4	44 7/8	42 3/4	34 1/8	55 3/8	5	44 3/4	44 3/4	29 7/8	--
		326T											56 7/8					
	2-4	364T											56 5/8				--	30 3/8
		365T											57 5/8					
		404T											58 3/8					
		405T											59 7/8					
	3,4	444T											62 5/8					
		445T											64 5/8					
44	2	364T	40	50	47	33 1/2	33 1/2	49	45	49 5/8	47 1/4	37 3/4	59 3/4	5	49 3/4	49 3/4	33	--
		365T											60 3/4					
	2-4	404T											61 1/2				--	33 1/2
		405T											63					
		444T											65 3/4					
		445T											67 3/4					
	3,4	447T											71 1/4					
49	2	404T	43 1/2	55	51 1/2	36	36	53 1/4	49 1/2	54 5/8	52	41 1/2	64 7/8	5	54 3/4	54 3/4	35 3/8	--
		405T											66 3/8					
	2-4	444T											69 1/8				--	36 7/8
		445T											71 1/8					
	3,4	447T											74 5/8					

Size	Cl.	Motor Frame	N	O	P	R	S	T	U	V	W	a	b		c	d	Base holes
													BAU/ TAU	TAD			
36 (Cl. 3,4)	3	324T	20	53 1/2	41 3/4	15 1/4	10	17 1/2	24 1/2	16	19	34 3/8	47 7/8	57 1/4	38 1/4	27 1/2	7/8
		326T	21 1/2	55			10 3/4										
	3,4	364T	21 1/4	54 3/4			10 5/8										
		365T	22 1/4	55 3/4			11 1/8										
	3,4	404T	23	56 1/2			11 1/2										
		405T	24 1/2	58			12 1/4										
40	2	324T	20	56 3/8	45 3/4	16 7/16	10	19	26 1/4	17 1/2	20 1/2	38	52 1/8	62 1/4	42 1/8	30	7/8
		326T	21 1/2	57 7/8			10 3/4										
	2-4	364T	21 1/4	57 5/8	45 3/4	16 11/16	10 5/8										
		365T	22 1/4	58 5/8			11 1/8										
		404T	23	59 3/8			11 1/2										
		405T	24 1/2	60 7/8			12 1/4										
	3,4	444T	27 1/4	63 5/8			13 5/8										
		445T	29 1/4	65 5/8			14 5/8										
44	2	364T	21 1/4	60 3/4	50 3/16	18	10 5/8	21	28 3/4	19 1/2	22 1/2	42	57	68	46 1/2	33 5/8	7/8
		365T	22 1/4	61 3/4			11 1/8										
	2-4	404T	23	62 1/2	50 3/16	18 1/4	11 1/2										
		405T	24 1/2	64			12 1/4										
		444T	27 1/4	66 3/4			13 5/8										
		445T	29 1/4	68 3/4			14 5/8										
	3,4	447T	32 3/4	72 1/4			16 3/8										
49	2	404T	23	65 7/8	55	19 3/16	11 1/2	23	31 1/4	21 1/2	24 1/2	46 1/8	62 1/4	74 3/8	51 1/4	36 1/2	7/8
		405T	24 1/2	67 3/8			12 1/4										
	2-4	444T	27 1/4	70 1/8	55	19 15/16	13 5/8										
		445T	29 1/4	72 1/8			14 5/8										
	3,4	447T	32 3/4	75 5/8			16 3/8										

ARR. 4F/4H/4V DIMENSIONS [INCHES] Not to be used for construction unless certified.



Size	Frame	B	C	D	F	G	H† with Flange	H† Flush Mount	J‡	M
10	143/145TC	8 1/2	10 3/16	11 5/16	10 11/16	8 9/16	22 1/4	19 3/4	2 1/2	8 1/8
12	143/145TC 182/184TC	10	12 3/8	13 3/4	13	10 3/8	23 1/8 26 1/8	21 24	2 1/8	9 3/8
13	143/145TC 182/184TC	11	13 5/8	15 3/16	14 5/16	11 7/16	24 1/8 27 1/8	22 25		10 3/8
15	143/145TC 182/184TC 213/215TC	12	15 1/8	16 7/8	15 7/8	12 11/16	26 1/8 29 1/8 30 3/8	23 26 27 1/4	3 1/8	11 3/8
16	143/145TC 182/184TC 213/215TC 254/256TC	13	16 3/4	18 1/2	17 9/16	14 1/16	27 30 31 1/4 35 3/8	23 7/8 26 7/8 28 1/8 32 1/4		12 1/4
18	143/145TC 182/184TC 213/215TC 254/256TC 284/286TC&TSC	14	18 1/2	20 7/16	19 7/16	15 1/2	28 5/8 31 5/8 32 7/8 36 1/2 40 1/2	25 1/2 28 1/2 29 3/4 33 3/8 37 3/8		13 7/8
20	182/184TC 213/215TC 254/256TC 284/286TC&TSC	15 1/2	20 7/16	22 1/2	21 7/16	17 1/8	32 3/4 34 37 5/8 41 5/8	29 5/8 30 7/8 34 1/2 38 1/2		15
22	182/184TC 213/215TC 254/256TC 284/286TC&TSC 324/326TC	17	22 9/16	24 13/16	23 11/16	18 7/8	34 5/8 35 7/8 39 1/2 43 1/2 46 1/2	31 1/2 32 3/4 36 3/8 40 3/8 43 3/8		16 7/8
24	213/215TC 254/256TC 284/286TC&TSC 324/326TC	19	24 13/16	27 5/16	26 1/16	20 3/4	38 1/2 42 1/8 46 1/8 48 1/8	34 3/8 38 42 44	4 1/8	18 1/2
27	213/215TC 254/256TC 284/286TC 324/326TC	20 1/2	27 5/16	30 3/16	28 11/16	22 7/8	40 3/8 44 48 50	36 1/4 39 7/8 43 7/8 45 7/8		20 3/8
30	254/256TC 284/286TC 324/326TC	22 1/2	30 7/16	33 7/16	31 15/16	25 1/2	46 1/4 50 1/4 52 1/4	42 1/8 46 1/8 48 1/8		22 5/8
33	254/256TC 284/286TC 324/326TC	24 1/2	33 1/2	36 13/16	35 1/8	28 1/16	48 1/2 52 1/2 54 1/2	44 3/8 48 3/8 50 3/8		24 7/8

† For reference only; will vary across motor manufacturers.

‡ For Arr. 4H/4V fans only.

INLET MOUNTING DIMENSIONS	Size	Flanged Inlet (Standard) 4H/4V					Flush Mount 4F		
		I.D.	B.C.	O.D.	Hole* Qty.	Hole* Dia.	B.C.	Hole** Qty.	Hole** Dia.
	10	10 5/16	11 7/8	12 7/8	8	7/16	14 1/4	7	5/16-18
	12	13 1/2	14 5/8	15 1/2			16 7/8		
	13	14 13/16	15 7/8	16 13/16			18 3/8		
	15	16 3/8	17 7/8	19 3/8			20 1/8		
	16	18 1/4	19 5/8	21 1/4			22		
	18	20	21 3/4	23	16	9/16	24 1/2	15	3/8-16
	20	21 3/4	23 1/2	24 3/4			26 1/4		
	22	24 3/8	26 1/8	27 3/8			28 7/8		
	24	26 7/8	29 1/8	30 7/8			32 1/2		
	27	29 1/2	31 3/4	33 1/2			35 1/8		1/2-13
	30	32 7/8	35 1/8	36 7/8			38 1/2	16	
	33	36 1/8	38 3/8	40 1/8			41 3/4		

*Holes on centerlines.

**Sizes 10-16 holes straddle centerlines. Sizes 18-33 holes on centerlines.

BARE FAN WEIGHTS WITHOUT WHEELS

In order to calculate a fan's total weight, add the bare fan weight with the corresponding wheel weight.

Arr. 4 Bare Fan Weights *Without Wheels*

Fan Size	Motor Frame	Class 2	Class 3,4
10	56-182	57	--
12	56-184	77	--
13	143-184	81	--
15	182-215	112	--
16	143-215	135	178
	254/6	141	189
18	143-286	168	223
20	182-286	212	262
	324	--	276
22	182-286	231	300
	324-364	--	362
24	184-286	276	354
	324-365	--	434
27	184-286	348	426
	324/6	348	--
	324-405	--	524
30	254-326	492	596
33	254-326	578	814
	364/5	--	879
36 Class 2	284/6	853	--
	324/6	815	--
	364/5	814	--

Class 3/4 Bare Fan Weights *Without Wheels*

Fan Size	Motor Frame	Discharge						
		BAU	BH	DB	TAD	TAU	TH	UB
36	324/6	1341	1295	1144	1216	1301	1188	1286
	364/5	1348	1302	1146	1220	1307	1191	1292
	404/5	1343	1297	1157	1226	1306	1198	1291
40	364/5	1606	1553	1365	1468	1564	1426	1548
	404/5	1599	1546	1377	1474	1561	1433	1545
	444/5	1740	1687	1480	1589	1694	1548	1678
44	404/5	1836	1775	1578	1728	1796	1682	1778
	444/5	1995	1934	1692	1861	1948	1815	1929
	447	2047	1986	1732	1905	1997	1859	1979
49	444/5	2340	2269	1972	2171	2281	2121	2261
	447	2397	2325	2015	2219	2335	2169	2315

Class 2 Bare Fan Weights *Without Wheels*

Fan Size	Motor Frame	Discharge						
		BAU	BH	DB	TAD	TAU	TH	UB
40	324/6	1393	1340	1158	1259	1352	1218	1336
	364/5	1406	1353	1165	1268	1364	1226	1348
	404/5	1399	1346	1177	1274	1361	1233	1345
44	364/5	1635	1573	1356	1515	1591	1469	1573
	404/5	1632	1571	1374	1524	1592	1478	1574
	444/5	1791	1730	1488	1657	1744	1611	1725
49	404/5	1935	1863	1584	1775	1878	1725	1858
	444/5	2094	2023	1726	1925	2035	1875	2015

Arr. 4V, 4F, 4H Bare Fan Weights *Without Wheels*

Size	Arr. 4V		Arr. 4F		Arr. 4H	
	Class 2	Class 3,4	Class 2	Class 3,4	Class 2	Class 3,4
10	48	--	43	--	49	--
12	64	--	58	--	65	--
13	76	--	70	--	77	--
15	109	--	92	--	110	--
16	146	159	127	140	148	161
18	173	189	151	169	175	191
20	216	227	193	204	220	230
22	277	295	252	269	281	298
24	449	449	394	394	--	--
27	531	531	470	470	--	--
30	707	707	640	640	--	--
33	845	845	770	770	--	--

Example of calculating a fan's total weight:

1. Select a Class 2, Size 44, 364/5 frame, BH discharge. Bare fan weight=1573.
2. Select a Class 2, Size 44, PLR wheel. Wheel weight=367.
3. Add the weights of the fan and wheel together to find the fan's total weight:1573+367=1940.

Wheel Weights & WR^2

Fan Size	Class 2				Class 3				Class 4			
	AcF		PLR		AcF		PLR		AcF		PLR	
	Wt.	WR^2	Wt.	WR^2	Wt.	WR^2	Wt.	WR^2	Wt.	WR^2	Wt.	WR^2
10	5		11	1	--				--			
12	8	2	15	2	--				--			
13	10	3	20	4	--				--			
15	13	3	21	5	--				--			
16	27	8	27	8	32	10	33	10	--			
18	32	11	32	10	47	13	46	12	49	14	48	12
20	38	17	50	17	56	21	58	24	56	21	58	24
22	46	24	58	27	63	29	67	32	73	36	67	32
24	62	38	65	43	100	54	100	53	100	54	100	53
27	72	55	76	64	115	78	114	75	115	78	117	78
30	91	87	103	103	151	120	139	105	151	120	152	120
33	119	130	136	146	173	172	173	170	180	185	173	170
36	185	227	205	258	253	260	260	276	266	289	260	276
40	268	332	297	395	305	409	318	432	320	450	318	432
44	321	535	367	648	352	598	376	660	377	691	441	841
49	488	902	522	985	550	985	585	1068	642	1279	590	1078