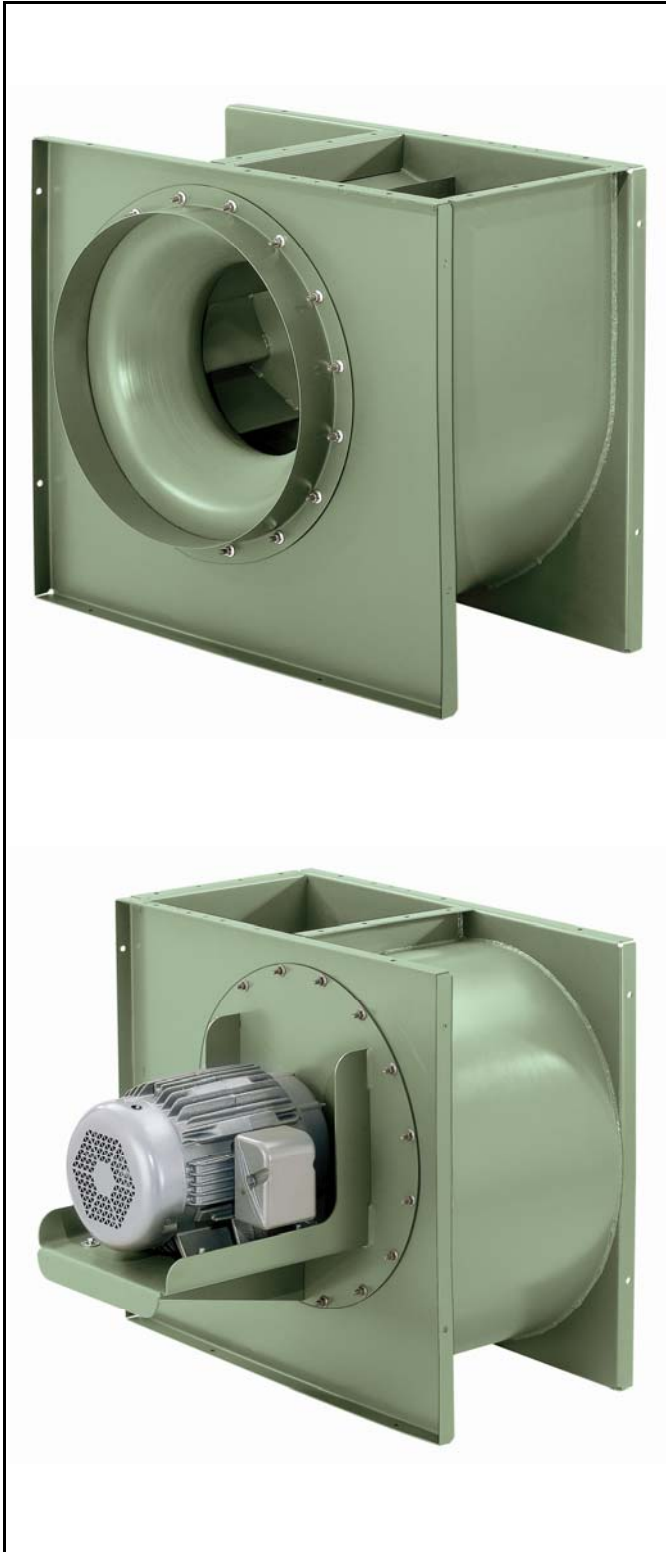


# ARRANGEMENT 4 SQUARE FANS



Square fans are available in compact Arrangement 4 direct drive configuration. They are ideally suited for a wide range of clean-air applications requiring a tight footprint. Typical uses include pneumatic conveying, product drying, product cooling, supply air, and exhaust on the clean-air side of dust collection systems.

## DESIGN FEATURES

- Eleven sizes ranging from Models 10 to 30.
- Static pressures to 22" WG.
- Capacities to 29,000 CFM.
- Operating temperatures to 180°F.
- Choice of AcoustaFoil®, PLR, or BC wheels.
- Choice of four discharge configurations.
- Eliminates shaft and bearings for minimum maintenance.
- Unique inlet cone design with 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, housings are designed to support motor weight without the aid of a separate motor pedestal.

**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** - nyb green polyester powder coating.

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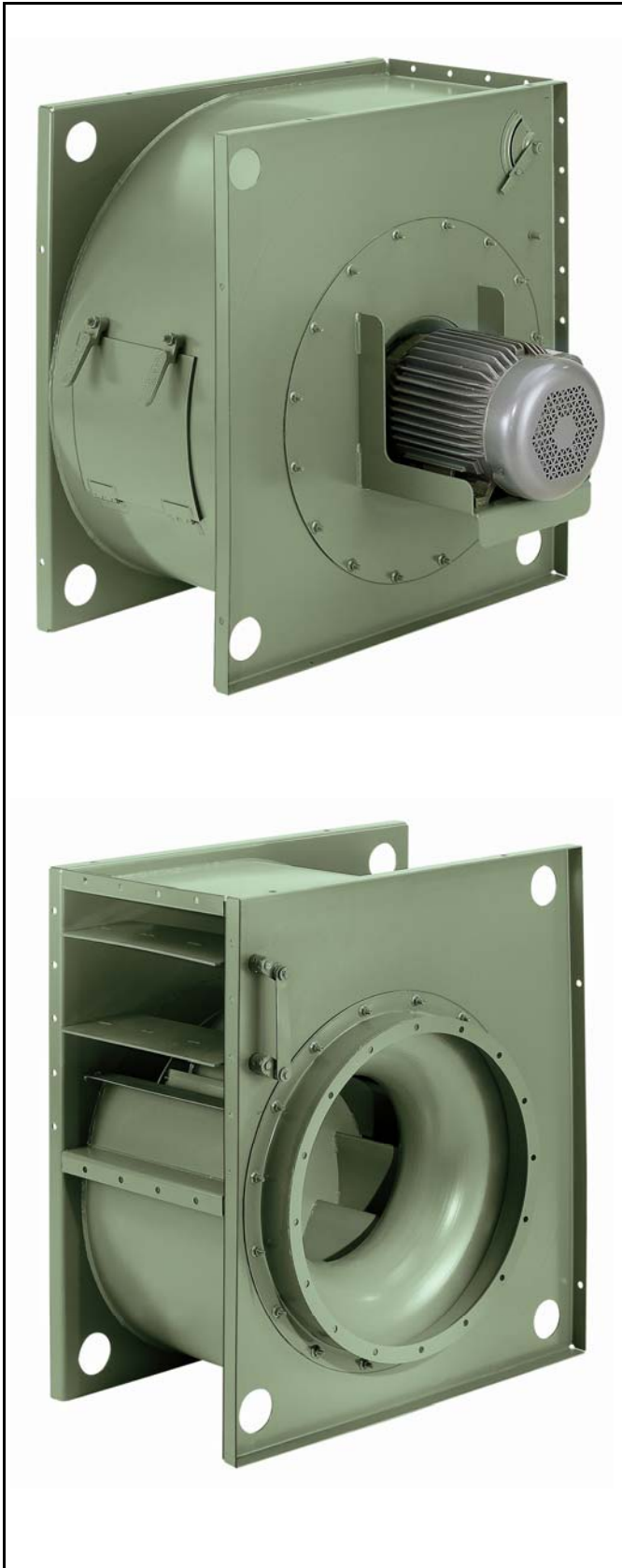


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Phone: (800) 208-7918 Email: [nyb@nyb.com](mailto:nyb@nyb.com)

CS-081  
October 2012

## ACCESSORIES/MODIFICATIONS



- **Drain** - Tank flange furnished in scroll on fans with downblast discharge; half couplings in housing drive side on all other discharges. Drain size is 1" on Models 10 - 16; 1-1/2" on Models 18 - 30.

- **Cleanout Door** - Available as a quick-opening latch-type door that swings open on hinges after cam levers have been turned, or bolted type with closely spaced studs to keep door securely sealed.

- **Internal Inlet-Vane Damper** - Available in Models 15 and larger for manual or automatic control. Includes quick-opening cleanout door and linkage.

- **External Inlet-Vane Damper** - Available in Models 16 and larger for manual or automatic control. Flanges are drilled with **nyb** standard hole pattern.

- **Integral Outlet Damper** - Single or multi-blade, manually operated damper located in the fan housing at the discharge. Multi-blade dampers are parallel configuration. Control arm is located on the drive side of the fan as standard.

- **Teflon® Shaft Hole Closure** - Teflon sheet attached to inside of fan housing to minimize leakage around motor shaft (Note: This option is not available on Models 10 and 12, which have C-face motors mounted directly to the drive side plate).

- **Flanged Inlet** - Furnished with **nyb** standard hole pattern.

- **Narrow-Width Construction** - Wheel widths can be adjusted to achieve specific points of operation at direct drive speeds. These narrower wheels are inherently stronger, thus permitting higher wheel maximum safe speeds. Refer to **nyb's** Electronic Catalog Fan Selection Program to determine the optimum fan for a specific point of operation.

- **Safety Equipment** - Inlet and outlet guards are available.

- **Spark-Resistant Construction** - AMCA B (Wheel-type) and AMCA C (Buffer-type) SRC are available.

- **Stainless Steel Construction** - Types 304 and 316 stainless alloy construction are available for corrosive applications. Consult **nyb**.



The New York Blower Company certifies that the Square Fans shown on page 3 are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

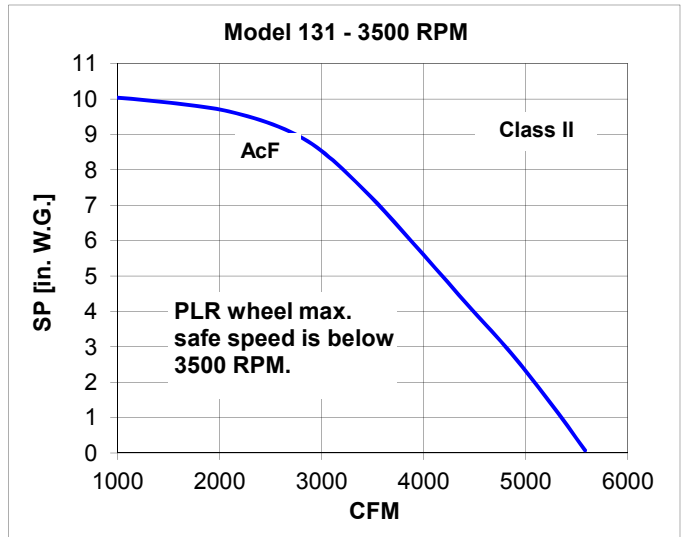
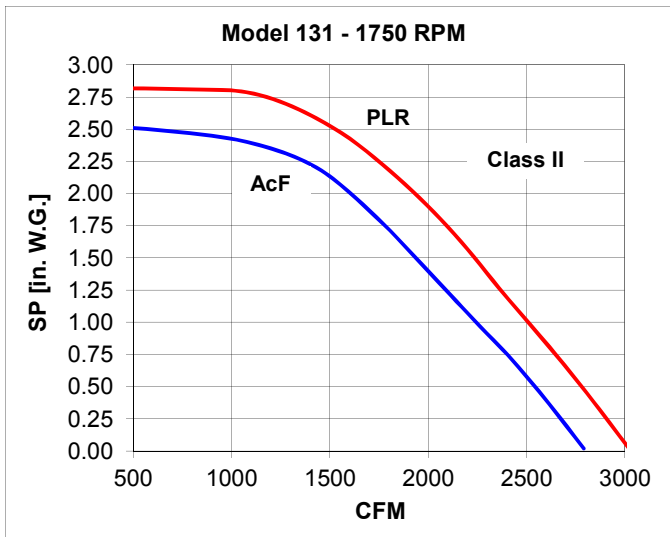
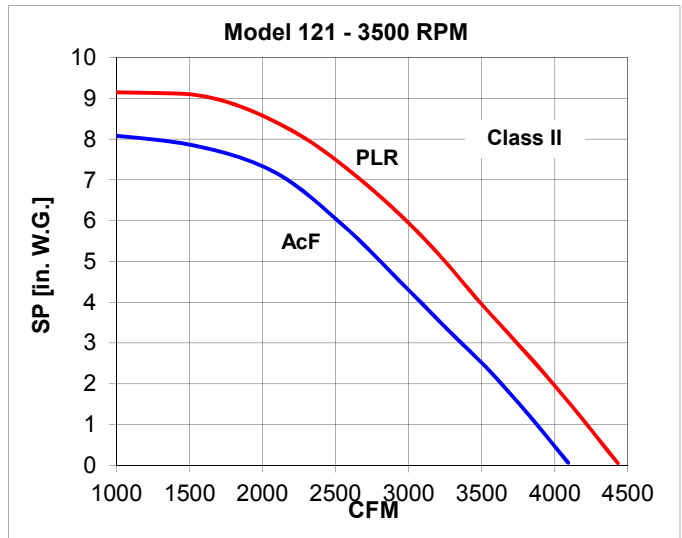
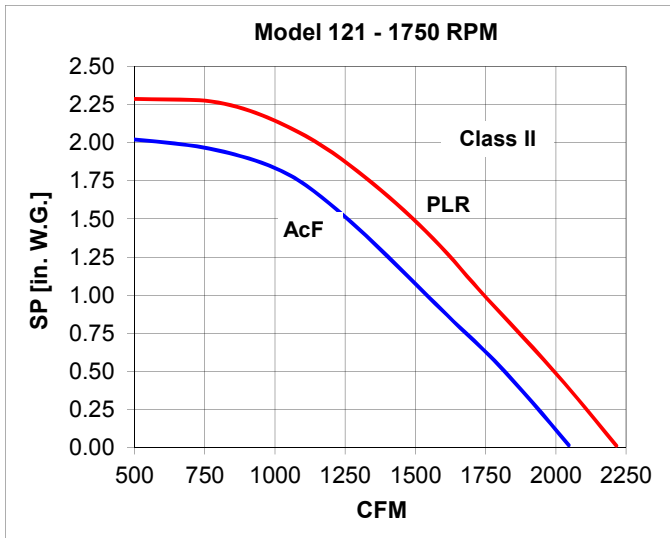
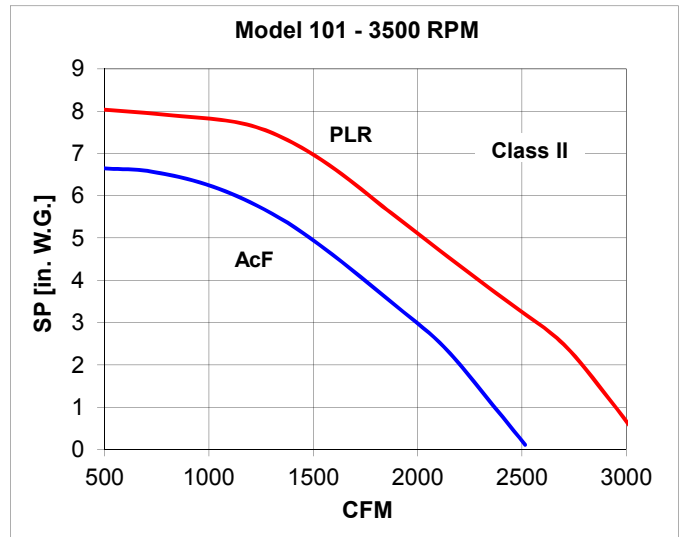
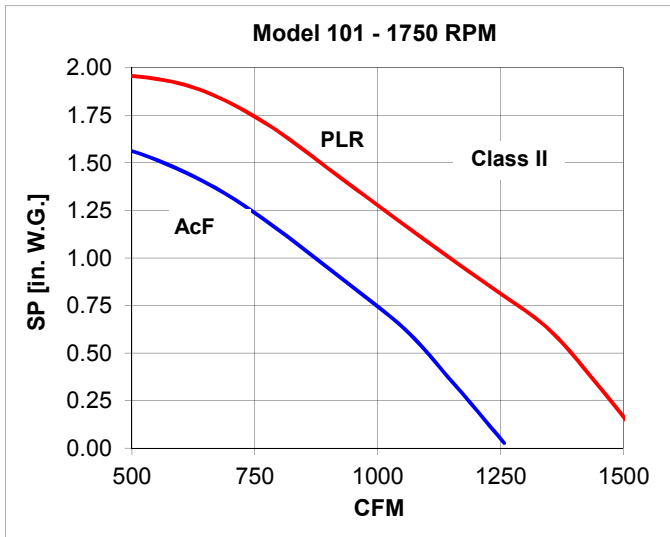
®Teflon is a registered trademark of DuPont.

# SQUARE FAN CAPACITY TABLES (by wheel type)

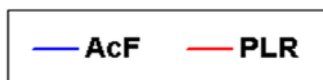
1750 RPM	ACF	Fan Model	1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP			
		10	1101	0.21	1001	0.21	871	0.2	741	0.20	561	0.18				611	0.36					
		12	1816	0.43	1681	0.44	1541	0.45	1401	0.45	1256	0.45		1086	0.44							
		13	2542	0.71	2402	0.73	2242	0.74	2087	0.75	1937	0.75		1777	0.75	1607	0.74	1372	0.72	577	0.54	
		Fan Model	1/2" SP		1" SP		1 1/2" SP		2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP			
		15	3429	1.13	3114	1.17	2769	1.20	2434	1.20	2054	1.18		894	0.91							
		16	4146	1.34	3931	1.45	3681	1.57	3411	1.66	3141	1.72	2856	1.78	2541	1.85						
		18	5548	2.10	5293	2.25	5013	2.41	4738	2.40	4453	2.57	4178	2.65	3868	2.74	3468	2.89	3023	2.86		
		Fan Model	2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP		5" SP		6" SP		7" SP		8" SP			
	20	6673	4.06	6363	4.27	6053	4.37	5748	4.47	5433	4.63	4593	4.78									
	22	9197	6.29	8862	6.62	8517	6.89	8172	7.04	7832	7.16	7137	7.56	6192	7.74							
	24	12601	9.82	12271	10.2	11941	10.7	11596	11.1	11226	11.4	10376	11.6	9476	11.9	8681	12.4	4971	9.59			
	Fan Model	4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP				
	27	16153	18.4	15348	19.4	14403	19.7	13398	20.0	12453	20.6	11618	21.1	6513	16.0							
	30	22194	28.3	21369	29.9	20474	31.2	19459	31.6	18349	31.9	17264	32.6	16269	33.4	15369	34.0	8939	26.0			
	Fan Model	1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP				
	10	1394	0.35	1286	0.34	1141	0.33	1011	0.31	881	0.30	746	0.28	276	0.19							
	12	1993	0.58	1873	0.59	1743	0.59	1623	0.60	1493	0.59	1338	0.58	1148	0.56	833	0.52					
13	2779	0.97	2649	0.98	2509	0.99	2369	0.99	2234	1.00	2094	1.00	1934	0.98	1749	0.96	1524	0.94				
Fan Model	1/2" SP		1" SP		1 1/2" SP		2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP					
15	3531	1.45	3256	1.49	2966	1.50	2351	1.47	1926	1.42												
16	4745	2.05	4505	2.15	4235	2.23	3975	2.32	3695	2.34	3385	2.35	2960	2.29								
18	6381	3.17	6101	3.30	5816	3.42	5526	3.53	5246	3.65	4956	3.72	4621	3.74	4206	3.72	3606	3.63				
Fan Model	2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP		5" SP		6" SP		7" SP		8" SP					
20	7749	5.69	7434	5.85	7124	6.01	6809	6.12	6459	6.17	5569	6.13										
22	10646	9.04	10296	9.25	9946	9.46	9606	9.67	9261	9.85	8496	9.99	7511	9.94								
24	15310	15.4	14990	15.9	14660	16.4	14286	16.6	13855	16.7	12940	16.9	12040	17.2	11075	16.7	9735	16.3				
Fan Model	4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP					
27	19869	28.0	18944	28.3	17924	28.5	16924	29.1	15904	28.9	14749	28.0	13094	27.4								
30	27163	43.9	26298	45.2	25268	45.5	24143	45.7	23043	46.5	21943	46.9	20793	46.2	19473	45.0	17663	44.3				
Fan Model	1/2" SP		1" SP		1 1/2" SP		2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP					
16	4807	2.18	4617	2.31	4417	2.44	4182	2.52	3912	2.55	3642	2.57	3342	2.57	2912	2.50	2112	2.18				
18	6256	2.97	6011	3.13	5746	3.28	5446	3.36	5126	3.44	4746	3.49	4241	3.39	3691	3.32	3041	3.26				
Fan Model	2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP		5" SP		6" SP		7" SP		8" SP					
20	7657	5.46	7322	5.56	6967	5.68	6567	5.76	6062	5.69	4847	5.47										
22	10513	8.67	10168	8.85	9798	8.99	9413	9.15	8993	9.29	7898	9.15	6558	8.86	4723	8.39						
24	14993	14.8	14683	15.1	14348	15.4	13968	15.7	13553	15.9	12718	16.2	11898	16.35	10968	16.3	9818	16.0				
Fan Model	3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP					
27	20207	25.5	19439	26.4	18529	27.0	17599	27.3	16699	27.6	14734	27.7	14634	27.5	13274	26.9	10899	25.5				
Fan Model	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP					
10	2361	1.59	2202	1.66	1997	1.66	1742	1.61	1482	2	1127	1.47										
12	3877	3.31	3637	3.43	3362	3.52	3082	3.57	2807	3.59	2517	3.57	2172	3.48	1217	2.9						
13	5345	5.52	5085	5.69	4800	5.84	4485	5.94	4180	5.99	3875	6.02	3560	6.01	3215	5.94	2750	5.75				
Fan Model	4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		15" SP		16" SP		17" SP					
15	6234	9.39	5544	9.58	4874	9.62	4109	9.44	1789	7.26												
16	7862	11.6	7357	12.6	6817	13.3	6282	13.8	5707	14.3	5082	14.8										
18	10587	18.0	10027	19.3	9472	20.6	8902	21.2	8352	21.9	7737	22.8	7352	23.1	6942	23.2	6547	23.1				
Fan Model	4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		16" SP		18" SP		20" SP					
20	14581	29.1	13974	30.6	13358	32.4	12738	34.1	12111	34.9	11499	35.8	10870	37.1	10090	38.0	9195	38.2				
Fan Model	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP					
10	2943	2.76	2788	2.77	2573	2.75	2288	2.62	2028	2.50	1768	2.38	1488	2.22	553	1.54						
12	4216	4.54	3986	4.64	3741	4.71	3486	4.74	3246	4.77	2986	4.74	2671	4.62	2296	4.50	1666	4.17				
13	<b>Narrow-width construction required</b>																					
Fan Model	4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		15" SP		16" SP		17" SP					
15	6903	12.6	6288	12.7	5698	12.8	4993	12.5	4093	12.1												
16	9016	17.2	8471	17.8	7956	18.5	7396	18.7	6776	18.8	5921	18.4	4976	16.9								
18	12202	26.4	11627	27.3	11052	28.3	10492	29.2	9907	29.8	9242	29.9	8857	29.9	8417	29.8	7907	29.6				
Fan Model	4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		16" SP		18" SP		20" SP					
20	16768	43.1	16143	44.3	15498	45.6	14863	46.8	14248	48.0	13613	49.0	12918	49.4	12113	49.3	11133	49.1				

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).

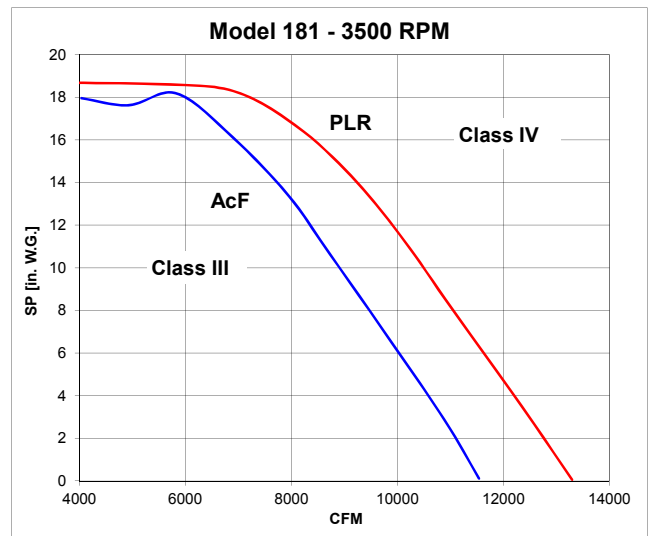
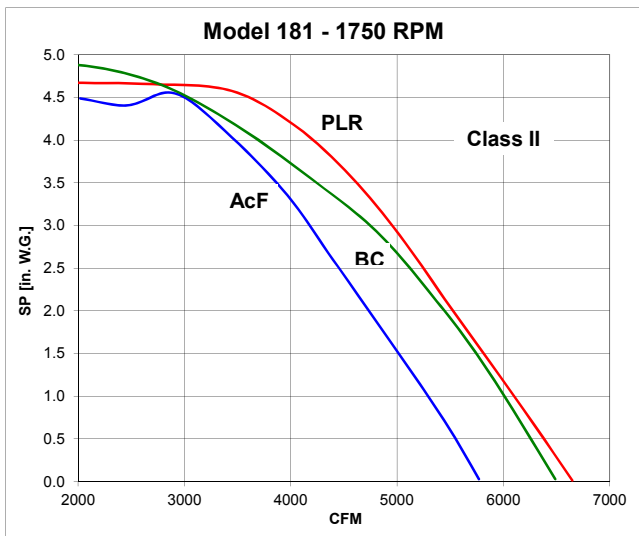
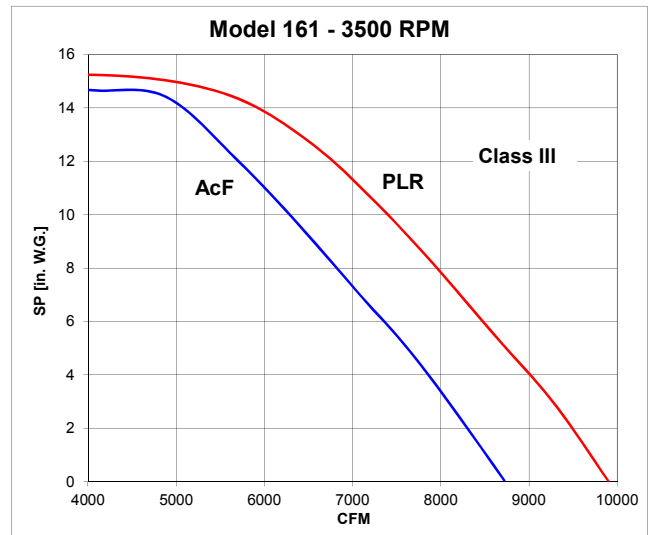
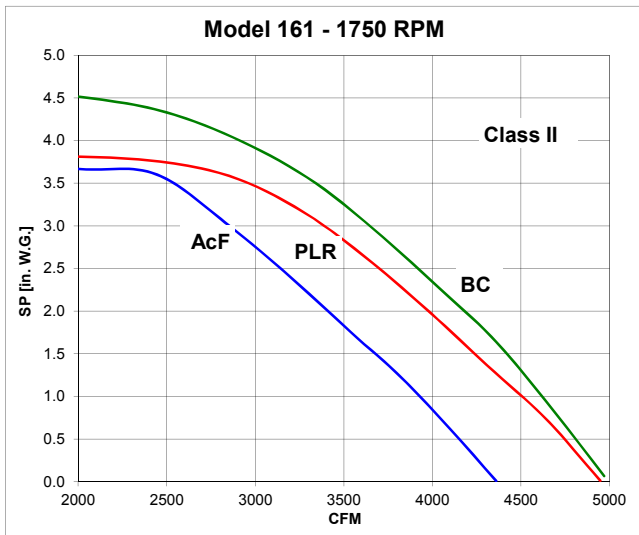
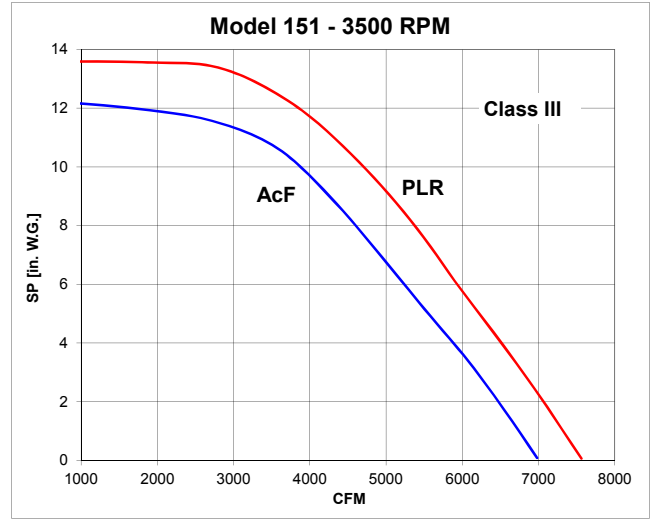
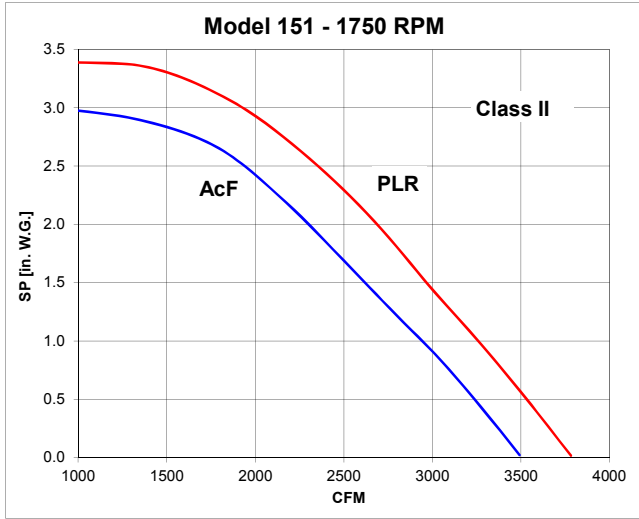
# DIRECT DRIVE PERFORMANCE CURVES (MODELS 101 - 131)



Performance certified is for installation Type B: Free inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). These curves are provided to compare performance, by wheel type, at specific direct drive speeds. For complete performance data, including brakehorsepower, refer to the fan selection program in The New York Blower Company's Electronic Catalog.



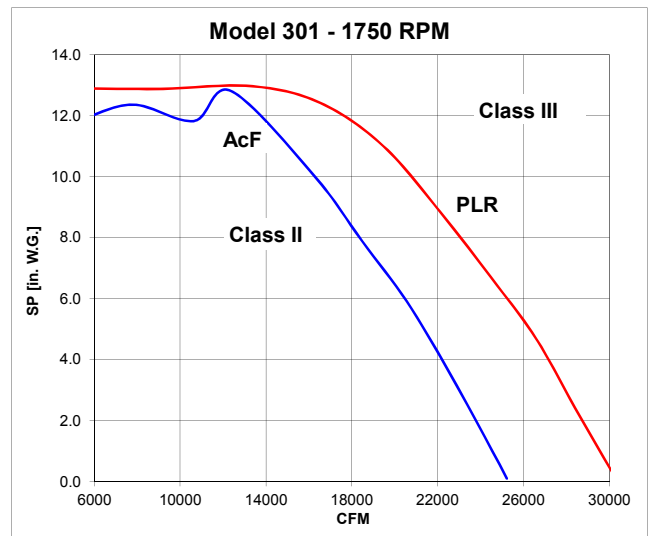
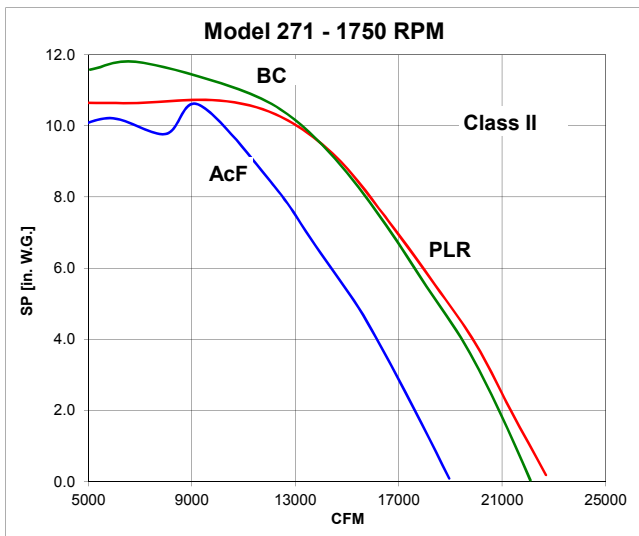
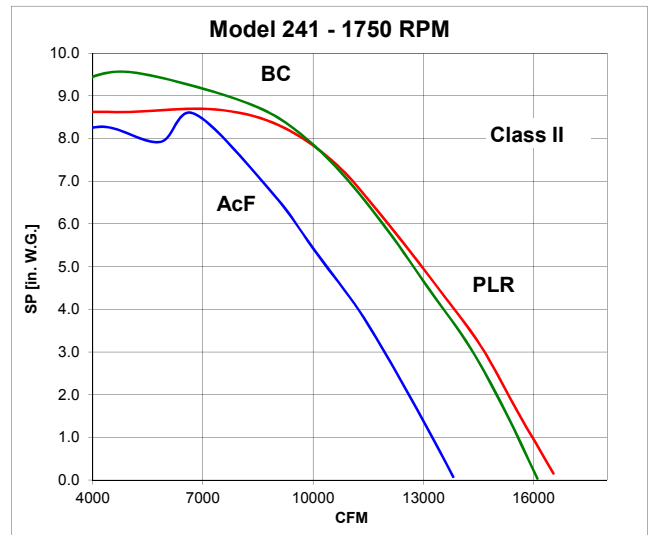
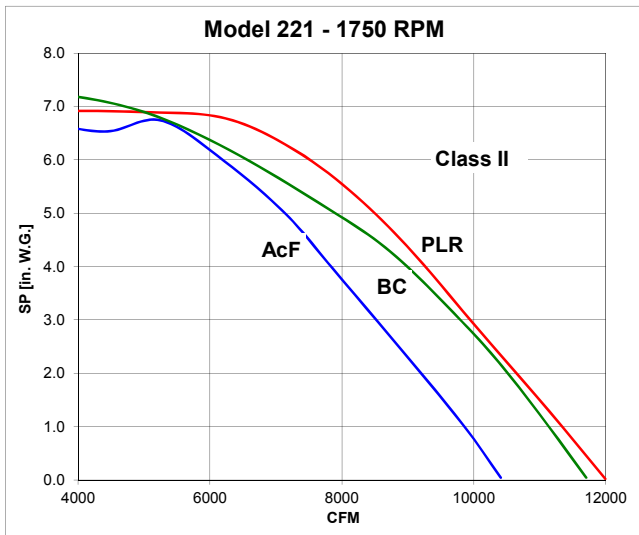
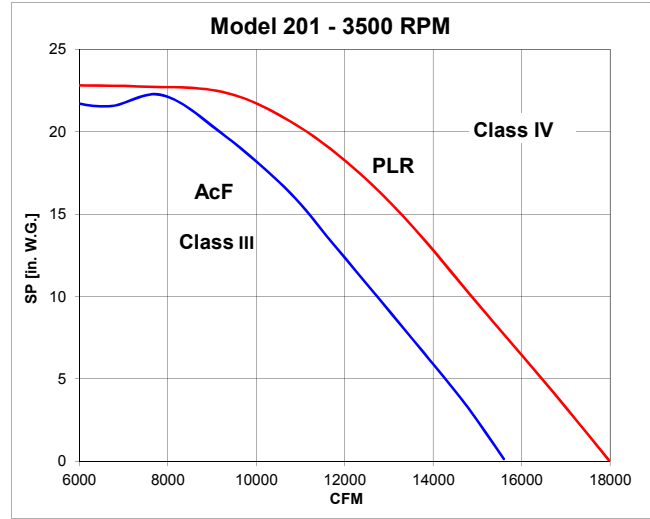
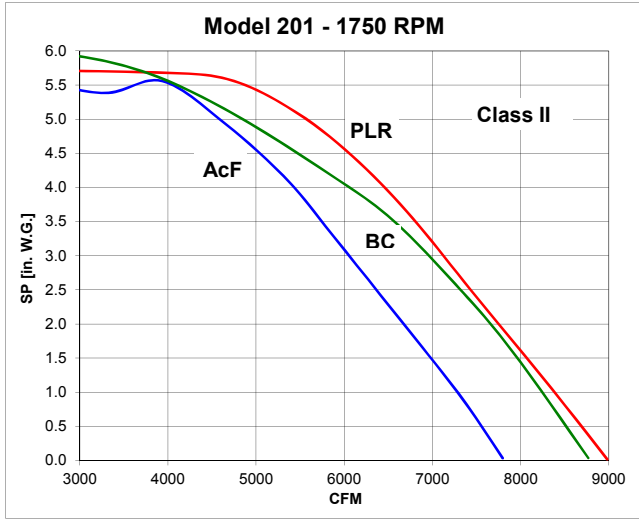
# DIRECT DRIVE PERFORMANCE CURVES (MODELS 151 - 181)



Performance certified for installation Type B: Free inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). These curves are provided to compare performance, by wheel type, at specific direct drive speeds. For complete performance data, including brakehorsepower, refer to the fan selection program in The New York Blower Company's Electronic Catalog.



# DIRECT DRIVE PERFORMANCE CURVES (MODELS 201 - 301)



Performance certified is for installation Type B: Free inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). These curves are provided to compare performance, by wheel type, at specific direct drive speeds. For complete performance data, including brakehorsepower, refer to the fan selection program in The New York Blower Company's Electronic Catalog.





# SPECIFICATIONS AND DIMENSIONS

WHEEL WEIGHTS (lbs.) and INERTIA (WR <sup>2</sup> = lbs-ft <sup>2</sup> )														
Fan Model	Wheel Size (Ref.)	Blade O.D. (Inches)	AcF				PLR						BC	
			Class II		Class III		Class II		Class III		Class IV†		Class II	
			Weight	WR <sup>2</sup>	Weight	WR <sup>2</sup>	Weight	WR <sup>2</sup>	Weight	WR <sup>2</sup>	Weight	WR <sup>2</sup>	Weight	WR <sup>2</sup>
101	12	12 1/2	8	2	NA	NA	15	1	NA	NA	NA	NA	NA	NA
121	13	13 3/4	10	3	NA	NA	18	3	NA	NA	NA	NA	NA	NA
131	15	15 1/4	12	3	NA	NA	21	4	NA	NA	NA	NA	NA	NA
151	16	16 3/4	26	6	27	7	26	6	26	7	NA	NA	NA	NA
161	18	18 1/4	35	10	40	11	36	10	41	11	NA	NA	39	11
181	20	20 1/8	40	15	44	15	44	17	52	18	45	10	50	19
201	22	22 1/4	53	23	54	24	56	25	59	27	55	25	62	28
221	24	24 1/2	72	37	NA	NA	69	34	NA	NA	NA	NA	87	46
241	27	27	82	52	NA	NA	89	58	NA	NA	NA	NA	100	66
271	30	30	99	83	NA	NA	111	95	NA	NA	NA	NA	119	101
301	33	33	112	115	NA	NA	130	138	138	147	NA	NA	136	141

NA - Not Available.

† For stainless steel construction of Models 181 and 201 Class III PLR Square Fans, a Class IV PLR wheel must be substituted for standard Class III wheel to achieve maximum safe speed of 3600 RPM. Contact **nyb**.

OUTLET FLANGE DIMENSIONS (Inches)													
Fan Model	A	B	C	D	M	X	Area (ft <sup>2</sup> )	Holes/Flange‡		Hole Dia.	Pattern Type		
								Sides	Top/Bottom				
101	12 1/16	10 7/8	11/16	9 13/16	8 5/8	20 5/16	0.59	2	2		3		
121	14 1/4	12 3/4	11/16	12	10 1/2	24 9/16	0.89	3	3		1		
131	15 3/8	14	11/16	13 1/8	11 3/4	26 7/8	1.08	3	3		1		
151	17 5/8	16 1/16	7/8	14 5/8	13 1/16	30 1/16	1.33	4	3		2		
161	18 13/16	17 3/8	7/8	15 13/16	14 3/8	32 15/16	1.60	4	4		3		
181	20 13/16	18 7/8	7/8	17 13/16	15 7/8	36 1/4	1.96	4	4	9/16	3		
201	22 7/16	20 3/8	7/8	19 7/16	17 3/8	39 5/8	2.35	5	4		4		
221	24 5/8	22 3/8	7/8	21 5/8	19 3/8	43 7/8	2.91	5	5		1		
241	26 13/16	24 5/16	7/8	23 13/16	21 5/16	48 1/8	3.52	6	5		2		
271	30 1/4	27 1/2	1 1/8	26 1/4	23 1/2	53 3/8	4.28	7	6		4		
301	33 3/16	30 1/8	1 1/8	29 3/16	26 1/8	59	5.30	7	7		1		

‡ Typical center-to-center distance on holes is 4".

Tolerance: ±1/8"

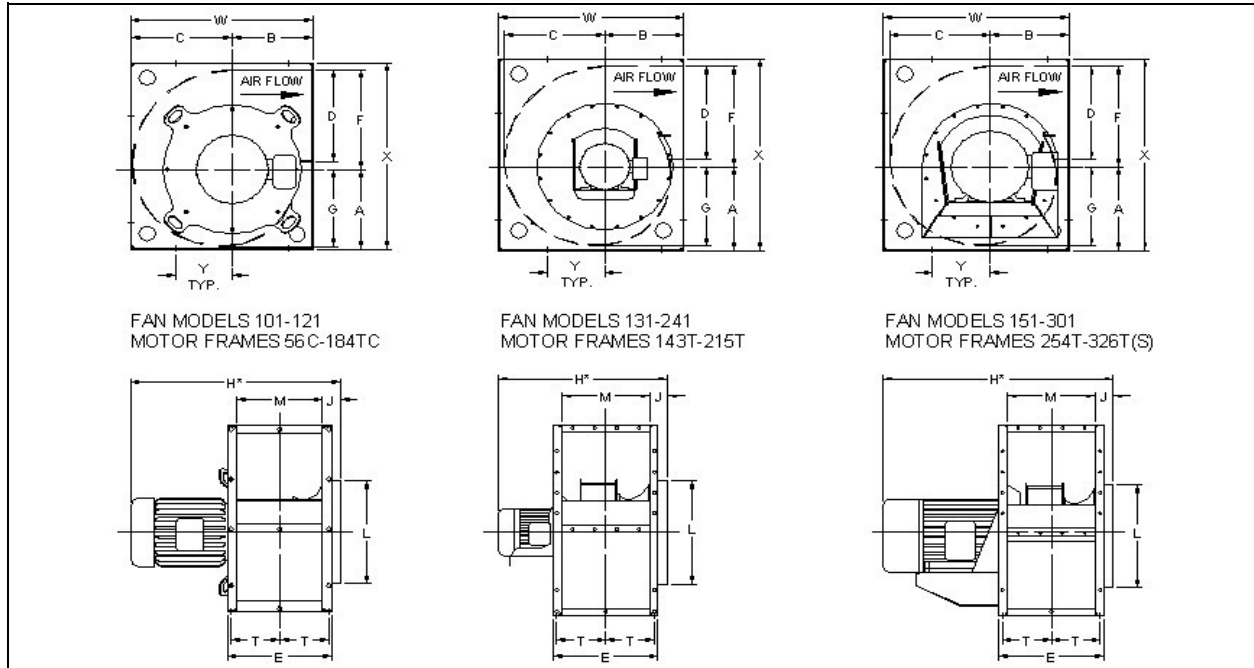
INLET FLANGE DIMENSIONS* (Inches)						
Fan Model	I.D.	B.C.	O.D.	Area (ft <sup>2</sup> )	Holes/Slots	
					No.	Size
101	10 3/4	11 7/8	13	0.63	8	9/16 Dia.
121	13 3/8	14 13/16	16 3/16	0.98		1/2 x 11/16
131	14 3/4	16 3/16	18 3/16	1.19		1/2 x 13/16
151	16 3/8	18	19 3/8	1.46		1/2 x 5/8
161	18 1/2	19 7/8	21 1/4	1.87		1/2 x 3/4
181	19 7/8	22	23 3/16	2.15	16	9/16 x 13/16
201	22 7/16	23 13/16	25 3/16	2.75		9/16 x 27/32
221	24 3/8	26 1/8	27 3/8	3.24		9/16 Dia.
241	26 7/8	29 1/16	31 3/16	3.94		9/16 x 5/8
271	29 7/8	32	34 3/16	4.87		9/16 x 25/32
301	32 7/8	35 1/4	37 3/16	5.89		9/16 x 11/16

\* Models 101 through 161 - Bolt holes are on centerlines.

Tolerance: ±1/8"

Models 181 Through 301 - Bolt holes straddle centerlines.

# DIMENSIONS [inches] AND SPECIFICATIONS



FAN MODELS 101-121  
MOTOR FRAMES 56C-184TC

FAN MODELS 131-241  
MOTOR FRAMES 143T-215T

FAN MODELS 151-301  
MOTOR FRAMES 254T-326T(S)

Model	A	B	C	D	E	F	G	J●	L▲	M	T	W	X	Y
101	8 5/8	8 1/2	10 1/8	9 13/16	10 7/8	10 11/16	8 7/16	1 13/16	10 7/8	8 5/8	5	18 13/16	20 5/16	5 11/16
121	10 1/2	10	12 3/4	12	12 3/4	13 3/16	10 3/16	2 3/16	13 1/2	10 1/2	6	22 1/2	24 9/16	7
131	11 9/16	11	13 9/16	13 1/8	14	14 3/8	11 3/8	2 3/16	14 7/8	11 3/4	6 9/16	24 3/4	26 7/8	8 5/6
151	12 3/4	12	15 1/8	14 5/8	16 1/16	15 15/16	12 5/8	2 3/16	16 1/2	13 1/16	7 7/16	27 1/4	30 1/16	8 9/16
161	14	13	16 7/16	15 13/16	17 3/8	17 9/16	13 3/8	2 3/4	18 5/8	14 3/8	8 1/16	29 3/4	32 15/16	9 3/8
181	15 7/16	14 1/4	18 3/16	17 13/16	18 7/8	19 7/16	15 5/16	2 3/4	20	15 7/8	8 13/16	32 3/4	36 1/4	10 3/8
201	17	15 1/2	19 7/8	19 7/16	20 3/8	21 1/4	16 13/16	2 3/4	22 9/16	17 3/8	9 9/16	35 7/8	39 5/8	11 3/4
221	18 7/8	17	22 1/8	21 5/8	22 3/8	23 5/8	18 5/8	2 3/4	24 1/2	19 3/8	10 9/16	39 9/16	43 7/8	13 1/4
241	20 3/4	18 1/2	24 1/2	23 13/16	24 5/16	26	20 1/2	2 3/4	27	21 5/16	11 9/16	43 5/16	48 1/8	14 3/4
271	22 7/8	20 1/4	26 3/4	26 1/4	27 1/2	28 5/8	22 7/16	2 3/4	30	23 1/2	12 7/8	47 1/2	53 3/8	16 1/2
301	25 5/16	22 1/4	29 11/16	29 3/16	30 1/8	31 13/16	24 7/8	2 13/16	33	26 1/8	14 3/16	52 1/2	59	18 1/2

● Note: Inlet flange increases the "J" dimension by 3/16". ▲ "L" dimension is O.D. of inlet collar. Tolerance: ±1/8"

Model	Motor Frame	H	Bare Fan Weight (lbs.)	Model	Motor Frame	H	Bare Fan Weight (lbs.)	Model	Motor Frame	H	Bare Fan Weight (lbs.)
101	56C	20 5/8	76	161	143/5T	28 1/16	222	201	284/6TS	42 1/2	372
	143/5TC	23	76		182/4T	28 9/16	222		324/6TS	45 1/4	372
121	143/5TC	25 1/8	112		213/5T	32 7/8	222	221	213/5T	37 15/16	454
	182/4TC	25 13/16	112		254/6T	37 11/16	245		254/6T	42 3/4	492
	131	143/5T	25 15/16	145	181	182/4T	30 1/8	295	241	213/5T	39 7/8
182/4T		26 1/8	145	213/5T		34 7/16	295	254/6T		44 11/16	567
213/5T		30 7/16	145	254/6T		39 3/16	317	271	254/6T	45 1/8	722
151	143/5T	26 15/16	195	284/6TS		41	317		284/6T	47 5/8	722
	182/4T	27 7/16	195	201	182/4T	31 5/8	342	301	284/6T	50 3/8	916
	213/5T	31 3/4	195		213/5T	35 15/16	342		324/6T	53 1/8	916
	254/6T	35 13/16	222		254/6T	40	372				

Tolerance: ±1/8"

Fan Model	Wheel Size (Reference)	WHEEL MAXIMUM SAFE SPEEDS (RPM)					
		AcF		PLR*		BC	
		Class II	Class III	Class II	Class III		
101	12	4,800	NA	4,185	NA	NA	
121	13	4,250	NA	3,730	NA	NA	
131	15	3,740	NA	3,305	NA	NA	
151	16	3,420	4,145	3,125	3,870	NA	
161	18	3,260	4,110	2,970	3,825	2,970	
181	20	2,955	3,730	2,670	3,600	2,670	
201	22	2,740	3,600	2,460	3,600	2,460	
221	24	2,505	NA	2,245	NA	2,245	
241	27	2,160	NA	1,990	NA	1,990	
271	30	1,935	NA	1,785	NA	1,785	
301	33	1,755	NA	1,605	2,025	1,605	

NA - Not Available.

\* Maximum safe speeds for Models 181 and 201 Class III PLR wheels apply to standard carbon steel and aluminum wheels only. Stainless steel wheels require Class IV wheel construction to achieve 3600 RPM operating speed.

NOTE: Stainless steel wheels may require narrow-width construction to achieve the maximum safe operating speeds shown above. Contact nyb for details.