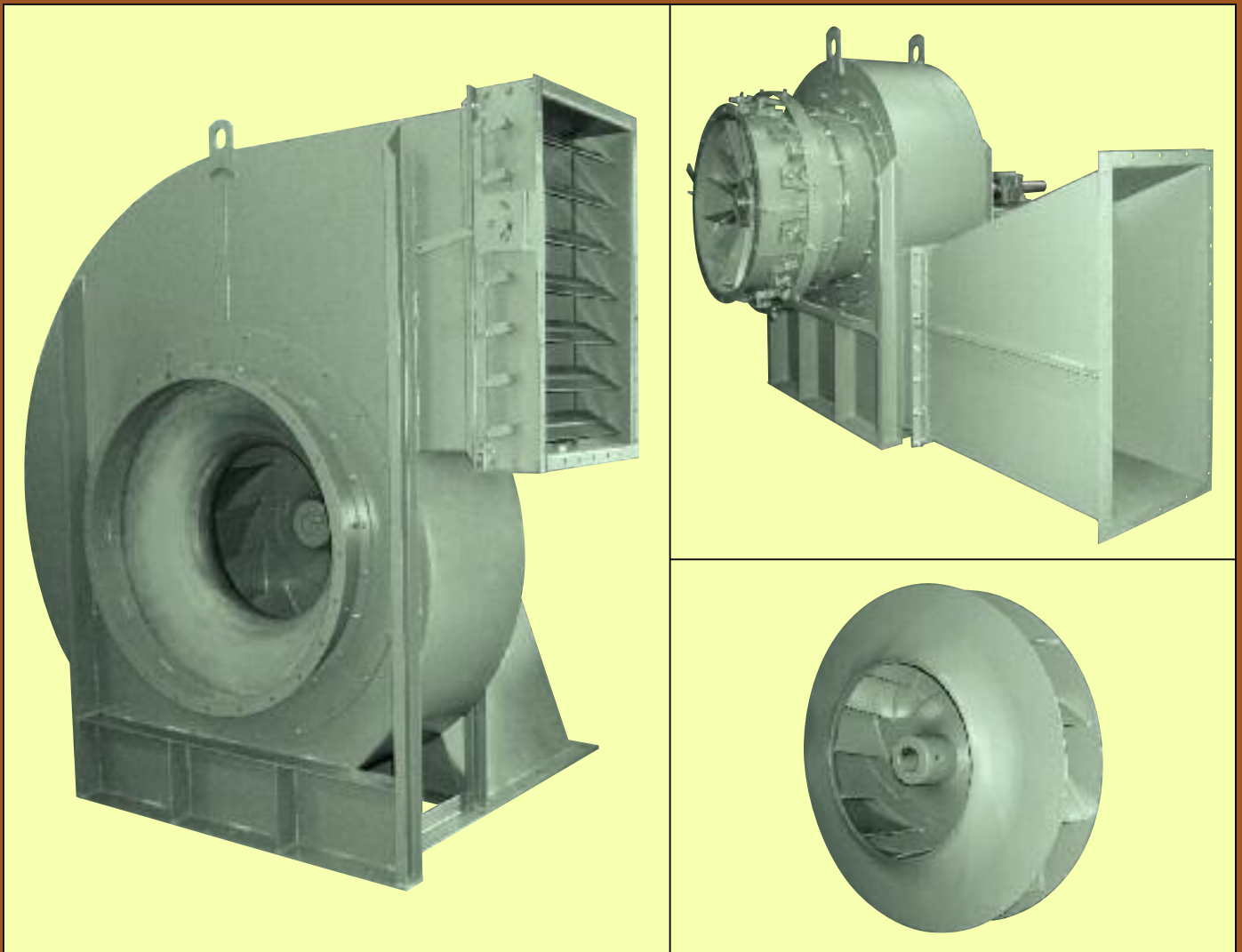


HIGH-EFFICIENCY HIGH PRESSURE BACKWARD-CURVED FANS



- Capacities to 170,000 CFM
- Static pressures to 40" WG
- Temperatures to 750°F.

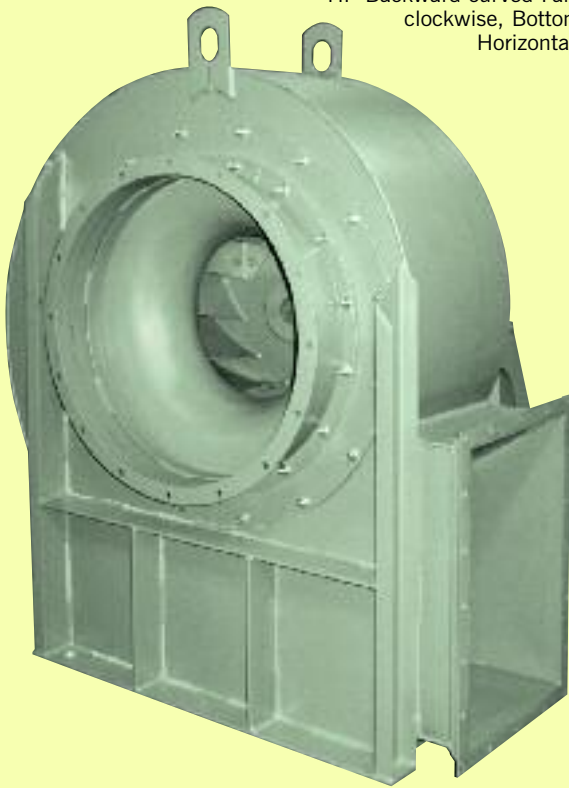


THE NEW YORK BLOWER COMPANY
7660 Quincy Street
Willowbrook, IL 60527-5530

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

HP BACKWARD-CURVED FANS

Size 271 Arrangement 1
HP Backward-curved Fan,
clockwise, Bottom
Horizontal.



Size 491 Arrangement 1
HP Backward-curved Fan,
counterclockwise, Top Horizontal,
with evase.

Standard high efficiency, HP Backward-curved Fans for clean air and light particulate-laden applications.

DESIGN FEATURES

- Single-thickness, backward-curved wheel constructed of high-strength, low alloy steel for dependable operation in moist or light particulate-laden airstreams.
- Wheel sizes from 24" to 89" blade diameters.
- Capacities to 170,000 CFM.
- Pressures to 40" WG.
- Mechanical efficiency to 84%.
- Temperatures to 750°F.
- Choice of direct-drive or belt-drive arrangements.
- Integral-base construction eliminates the need for field erection of independent bearing pedestals and sole plates...complete factory-assembled units up to Size 661 are test run and balanced prior to shipment.
- Available in clockwise and counterclockwise rotations in any of seven standard discharge positions.

CONSTRUCTION FEATURES

Flanged inlet and outlet-standard—on all sizes...furnished with bolt holes for ease of installation.

Lifting eyes-standard—on all sizes for ease of handling.

Shafting—high quality, close tolerance, turned, ground, and polished.

Shaft seal—ceramic-felt shaft seals standard on all fans...multiple seal elements compressed between metal backing plate and retainer.

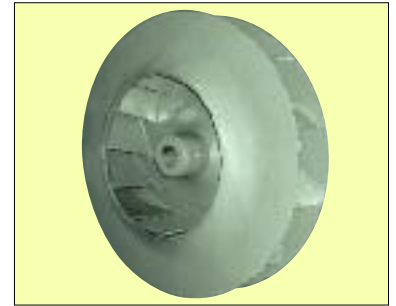
Precision balancing—all HP Backward-curved wheels are statically and dynamically balanced before final assembly...after final assembly all fans are given a final balance check on a rigid test bed at the specified running speed.

Heavy-duty spherical roller bearings—selected for long life through applicable speed range.

Standard two-coat paint system—two coats of medium green industrial enamel...301°F.-750°F. Heat Fans are coated with high-temperature paint.

BACKWARD-CURVED WHEELS

Backward-curved wheels—rugged, all-welded wheels designed for clean air applications but capable of handling light particulate-laden or moist airstreams. Air-handling efficiencies of the HP Backward-curved Fans are higher than common radial fans and, therefore, offer lower noise levels. See pages 7–9 for performance information, or use **nyb** Electronic Catalog Software for more specific details.



ELECTRONIC CATALOG

Fan-selection program corrects for altitude, temperature, rarefaction, 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.

SAFETY EQUIPMENT

Belt guards, inlet and outlet guards, shaft and bearing guards, and coupling guards are available from The New York Blower Company. Contact your **nyb** representative for further information.

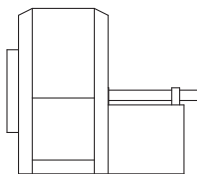
NOTE: Safe operation of air-moving equipment is dependent on proper installation and maintenance including selection and use of appropriate safety accessories for the specific installation. The system designer must consider providing guards for all exposed moving parts as well as protection from access 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 International, 30 West University Drive, Arlington Heights, Illinois 60004, which is included with the packing slips for all shipments from **nyb** and available on request.

ARRANGEMENT FLEXIBILITY

ARRANGEMENT

1



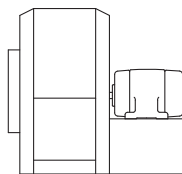
Overhung wheel on shaft and bearing assembly isolates fan bearings from airstream. Normally this arrangement is used for V-belt-drive fans which provides flexibility in fan performance.

Available in 24” to 66” wheel diameters.

Maximum temperature:
Standard fan: 300°F.
Heat fan: 750°F.

ARRANGEMENT

4



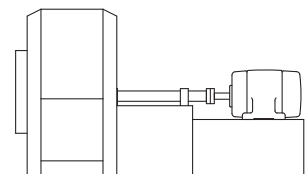
Wheel mounted directly on motor shaft to provide the most compact design. Elimination of shaft and bearings for minimum maintenance. Narrow-width wheel designs permit higher speeds and pressures.

Available in 24” to 49” wheel diameters.

Maximum temperature: 180°F.

ARRANGEMENT

8



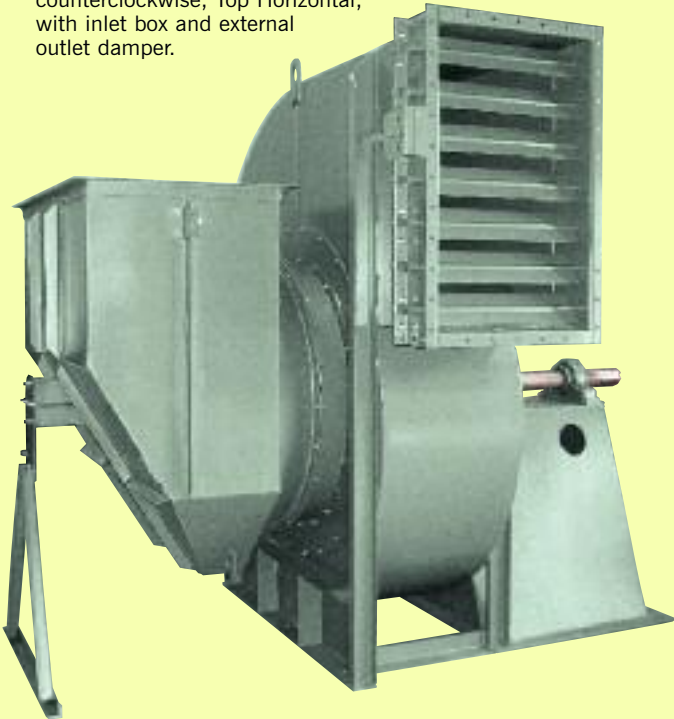
Similar to Arrangement 1 but with integral motor base to accommodate motor and coupling.

Available in 24” to 89” wheel diameters.

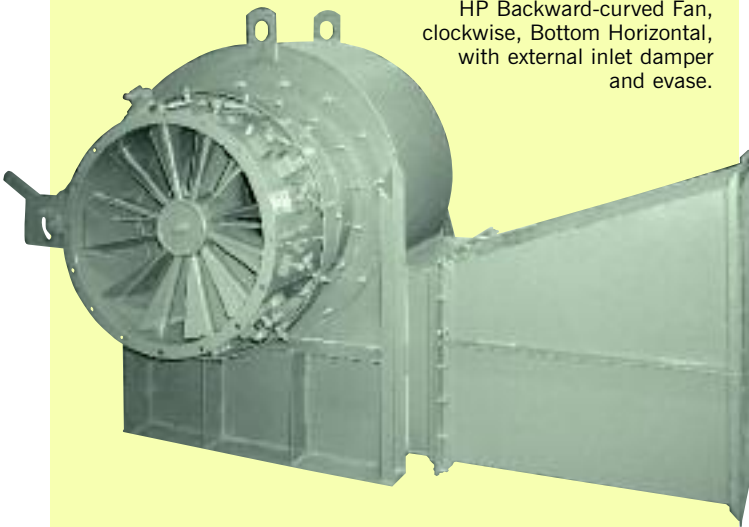
Maximum temperature:
Standard fan: 300°F.
Heat fan: 750°F.

ACCESSORIES

Size 491 Arrangement 1
HP Backward-curved Fan,
counterclockwise, Top Horizontal,
with inlet box and external
outlet damper.



Size 271 Arrangement 1
HP Backward-curved Fan,
clockwise, Bottom Horizontal,
with external inlet damper
and evase.



- **COMPANION FLANGES**

Designed to fit flush with fan inlet and outlet flanges, provided with a matching hole pattern.

- **EVASE**

Aerodynamically designed evase provides attached flow for maximum static pressure regain and reduced outlet velocities.

- **DRAIN**

Welded tank flange [FPT], 1½" located at the lowest point in the housing scroll.



- **CLEANOUT DOOR**

Two types of gasketed door available...**bolted**: closely spaced studs keep door securely sealed...**raised bolted**: allows for insulation when desired, door raised 2" from the fan housing.

- **INLET BOX**

Minimizes entry losses normally associated with 90° turns at or near fan inlet...also available with parallel-blade damper for efficient volume control.

- **SHAFT SEALS**

Ceramic-felt shaft seals consist of compressed ceramic felt elements standard on Arrangements 1 and 8. Lubricated lip seals [Buna-N, Teflon®, and Viton®] and gas-purgeable mechanical seals are also available. Consult your **nyb** representative for availability.

[Teflon is a registered trademark of DuPont]
[Viton is a registered trademark of DuPont Dow Elastomers.]

- **INLET DAMPERS**

External vane construction provides prespun air effect to control fan performance efficiently...not available for use with inlet box...maximum temperature: 750°F.

- **VIBRATION ISOLATION**

Rubber-in-shear or spring-type isolation mounted to rugged structural unitary base reduces the transmission of vibration to the mounting structure.

- **UNITARY BASE**

Arrangement 1 fan, motor, and guards can be mounted and shipped on a rugged, structural-steel base. Factory-assembled and run-tested prior to shipment.

- **OTHER ACCESSORIES**

Also available from **nyb** are drive components such as motors, couplings, and v-belt drives as well as a variety of preventive-maintenance products including vibration detectors, bearing-temperature detectors, and zero-speed switches.

- **OUTLET DAMPERS**

Heavy-gauge parallel-blade or opposed-blade outlet dampers are available for volume control. Two standard temperature ranges: 300°F. and 800°F.

MODIFICATIONS

- **COATINGS**

Cost-effective protective coatings under a variety of trade names are available to increase the fan's resistance to adverse, corrosive environments.

- **INSULATION STUDS**

2-inch long weld-studs located on 12-inch centers on all surfaces of housing exterior...recommended for use with field-installed insulation...studs are normally mild steel; stainless steel available on request.

- **HEAT-FAN CONSTRUCTION**

Standard Arrangement 1 and 8 HP Backward-curved Fans are designed to handle airstreams to 300°F.

HP Backward-curved Fans handling 301°F. to 750°F. airstreams are furnished with shaft cooler and shaft cooler guard, and all surfaces are coated with high-temperature paint.

NOTE: Contact **nyb** when the intended service involves a temperature rate change exceeding 20°F. per minute.

- **NARROW-WIDTH AND SPECIAL DIAMETER CONSTRUCTION**

Wheel and housing widths and wheel diameter can be adjusted to meet volume and pressure requirements at most efficient operating point.

- **SPLIT-HOUSING CONSTRUCTION**

Provides for wheel and shaft removal...split portion can be removed without disturbing the inlet or outlet connections. This modification is standard on Sizes 731 – 891.

- **SPARK-RESISTANT CONSTRUCTION [SRC]**

Intended to minimize the potential for any two or more fan components to generate sparks within the airstream by rubbing or striking during operation.

The following types are available:

- **AMCA A [AIRSTREAM] SRC**

To include all airstream parts constructed of a spark-resistant alloy...maximum temperature: 200°F.

- **AMCA B [WHEEL] SRC**

To include the fan wheel constructed of a spark-resistant alloy and a buffer plate around the housing shaft-hole opening...maximum temperature: 200°F.

- **AMCA C [BUFFER] SRC**

To include a spark-resistant alloy buffer affixed to the housing interior adjacent to the wheel back-plate, a spark-resistant alloy inlet cone, and a buffer plate around the housing shaft-hole opening...maximum temperature: 650°F.

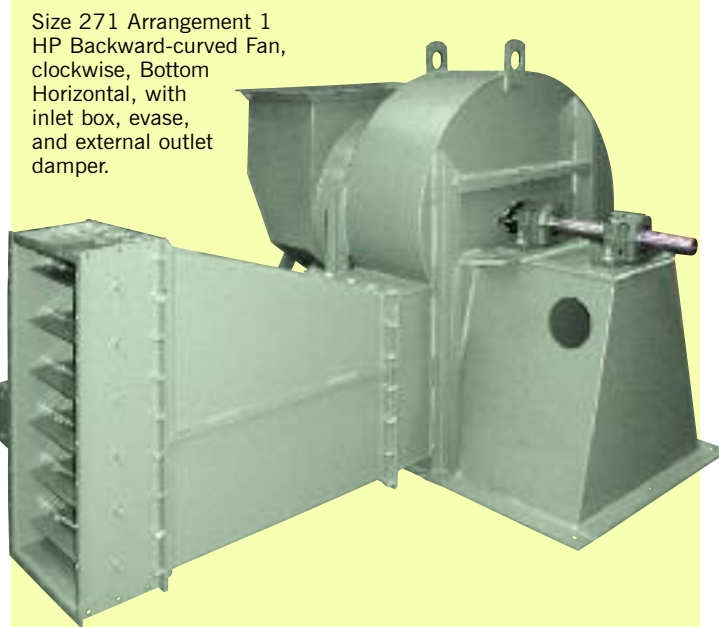
- **ALL TYPES SRC**

Fan is to be so constructed such that no bearings, drive components, or electrical apparatus are located in the airstream...the user must electrically ground all fan and system components.

Refer to Engineering Letter 15 for the full meaning and limits of spark-resistant construction.



Size 271 Arrangement 1
HP Backward-curved Fan,
clockwise, Bottom Horizontal,
with external inlet damper,
unitary base, belt guard,
shaft and bearing guard,
motor and drive.



Size 271 Arrangement 1
HP Backward-curved Fan,
clockwise, Bottom
Horizontal, with
inlet box, evase,
and external outlet
damper.

- **SPECIAL ALLOYS**

HP Backward-curved Fans are available with various grades of stainless steel for corrosive, non-abrasive airstream contaminants. Wheels can be furnished in Alloy 2205 stainless steel to maintain required operating speeds. Consult **nyb** if other materials are required.

- **TECHNICAL SUPPORT**

nyb has developed numerous engineering and application support tools for system designers and operators. For further information, contact your local **nyb** sales representative or visit our web site at www.nyb.com.

HP BACKWARD-CURVED FANS

SPEED CAPABILITIES

Maximum safe operating speeds are shown in Chart I for HP Backward-curved Fans with the standard high-strength steel wheel and the standard shaft and bearings as listed. Substitution of alternate wheel alloys, or modifications to the standard shaft and bearing selection, may alter the maximum safe speed.

Chart II provides safe speed correction factors for various temperatures and the common alternate wheel alloys. These factors apply to the wheel safe speeds listed in Chart I.

Example: A Size 361 HP Backward-curved Fan with an Alloy 2205 wheel operating at a maximum airstream temperature of 600°F. will have a maximum safe operating speed of 1700 RPM [2500 x .68].

DENSITY CORRECTIONS

CALCULATING FANS AT TEMPERATURES OTHER THAN 70°F

When a fan handles air at 70°F, it is operating at .075 pounds per cubic foot. When a fan handles other than standard air, a density correction factor must be considered. Static pressure and brake horsepower vary inversely as the absolute temperature. For convenience, Chart III gives factors for correcting pressure and brake horsepower.

EXAMPLE

1. Require 15,000 CFM at 12"SP at 300°F at sea level.
2. Chart III indicates 1.43 factor for 300°F
3. Select the fan for 17.2"SP [12" x 1.43] at 70°F.
4. Divide 70°F brake horsepower by 1.43 to determine BHP at conditions.

CALCULATING FANS AT ALTITUDES OTHER THAN SEA LEVEL [29.92 in. Hg]

If speed, capacity, and temperature are kept constant, static pressure and horsepower will vary directly as the density of the air. The method for correcting the altitude is the same as for temperature except using the factors in Chart IV.

CHART I MAXIMUM SAFE SPEEDS HP BACKWARD-CURVED FAN WHEELS, SHAFTS, AND BEARINGS

Fan size	Maximum safe speed [at 70°F.]	Arrangement 1		Arrangement 8	
		Shaft diameter	Bearing type*	Shaft diameter	Bearing type*
241	3750	2 ³ / ₁₆	P-LB6835	2 ³ / ₁₆	P-U335
271	3600	2 ³ / ₁₆	P-LB6835	2 ³ / ₁₆	P-U335
301	3050	2 ⁷ / ₁₆	P-LB6839	2 ⁷ / ₁₆	P-U339
331	2780	2 ¹ / ₁₆	P-LB6843	2 ⁷ / ₁₆	P-U339
361	2500	2 ¹ / ₁₆	P-LB6847	2 ¹ / ₁₆	P-U343
401	2260	2 ¹ / ₁₆	P-B22447	2 ¹ / ₁₆	P-U347
441	2000	3 ⁷ / ₁₆	P-B22455	2 ¹ / ₁₆	P-B22447
491	1870	3 ⁷ / ₁₆	P-B22455	3 ⁷ / ₁₆	P-B22455
541	1690	3 ¹ / ₁₆	P-B22463	3 ⁷ / ₁₆	P-B22455
601	1530	3 ¹ / ₁₆	P-B22463	3 ⁷ / ₁₆	P-B22455
661	1390	4 ⁷ / ₁₆	P-B22571	3 ¹ / ₁₆	P-B22463
731	1260	NA	NA	3 ¹ / ₁₆	P-B22463
801	1140	NA	NA	4 ⁷ / ₁₆	P-LB6871
891	1030	NA	NA	4 ¹ / ₁₆	P-LB6879

NA – Not available. *nyb reserves the right to substitute bearings of equal rating. Link-Belt bearings are shown for reference.

NOTE: Higher safe speeds and static pressures are available with narrow-width construction; consult nyb.

CHART II TEMPERATURE CORRECTION FACTORS FOR MAXIMUM SAFE SPEEDS

Airstream temperature [°F.]	Materials of construction				
	Standard steel wheel	Aluminum	Stainless 316	Stainless 347	Alloy 2205
-50°	1.00	1.00	0.64	0.63	0.85
70°	1.00	1.00	0.64	0.63	0.85
200°	0.97	0.97	0.61	0.61	0.79
300°	0.94	—	0.58	0.59	0.76
400°	0.91	—	0.56	0.57	0.73
500°	0.88	—	0.54	0.56	0.70
600°	0.85	—	0.53	0.55	0.68
700°	0.81	—	0.52	0.54	—
750°	0.80	—	0.51	0.54	—

CHART III TEMPERATURE CORRECTIONS

Temp. °F.	Factor
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
200	1.25
300	1.43
400	1.62
500	1.81
600	2.00
750	2.28

CHART IV 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	1.23
6000	1.25
7000	1.30
8000	1.35
9000	1.40
10000	1.45

NOTE: If correction factor for both temperature and altitude is required, multiply factors from Charts III and IV together: 3000' and 600°F. 1.12 x 2.00 = 2.24 [combined factor].

USING CAPACITY TABLES

The capacities shown in the tables on pages 7–9 are based on belt-drive selections. For a required performance, the tables provide a means of determining fan size, outlet velocity, speed, and brake horsepower. Performance shown includes the effects of the evase discharge. For capacities without evase, and for direct-drive fan performance (including sizes 731 to 891), use **nyb** Electronic Catalog software [see description on page 3]. To obtain a copy contact your New York Blower sales representative or **nyb** at www.nyb.com.

1. Ratings are based on standard 70°F. air at a density of .075 pounds per cubic foot. See page 6 for density correction factors.
2. Performance shown is for HP Backward-curved Fans with evase discharges, with outlet ducts, and with or without inlet ducts.
3. For a given selection, check the required fan speed at the maximum operating temperature against the maximum safe speeds shown in Chart I on page 6.

SIZE 241		WITH EVASE		Wheel diameter: 24.5" Wheel circumference: 6.41'				Capacity outlet area: 2.51 ft. ²				Maximum BHP = 1.32 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	1596	2078	9.36	2359	12.7	2611	16.1	2842	19.6	3056	23.1	3268	27.0	3358	28.8	3453	30.7	3554	32.8	3639	34.7
4850	1935	2141	11.3	2408	15.0	2657	19.0	2885	23.1	3093	27.2	3291	31.3	3392	33.6	3484	35.7	3564	37.7	3665	40.2
5700	2275	2228	13.5	2484	17.7	2711	21.9	2938	26.6	3142	31.2	3341	36.2	3437	38.7	3514	40.7	3607	43.3	3691	45.7
6550	2614	2341	16.0	2573	20.7	2786	25.3	3005	30.4	3199	35.4	3388	40.7	3481	43.4	3568	46.1	3659	48.9	3743	51.7
7400	2953	2477	19.1	2682	24.0	2887	29.3	3084	34.7	3262	39.8	3444	45.4	3534	48.4	3628	51.5	3707	54.3		
8250	3292	2624	22.6	2814	28.0	2999	33.6	3179	39.3	3352	45.1	3530	51.3	3610	54.2	3694	57.3				
9100	3631	2771	26.4	2956	32.4	3125	38.3	3291	44.4	3456	50.8	3618	57.2	3690	60.2						
9950	3970	2927	30.8	3100	37.1	3269	43.9	3425	50.4	3572	56.9	3720	63.6								
10800	4310	3092	36.1	3253	42.6	3414	49.8	3561	56.7	3704	63.8										

SIZE 271		WITH EVASE		Wheel diameter: 27.0" Wheel circumference: 7.07'				Capacity outlet area: 3.07 ft. ²				Maximum BHP = 2.14 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	1631	1889	11.6	2149	15.8	2376	20.0	2583	24.3	2774	28.7	2964	33.4	3045	35.5	3129	37.9	3219	40.5	3304	43.0
6000	1958	1953	14.0	2191	18.5	2418	23.5	2626	28.6	2816	33.7	2997	38.9	3076	41.3	3159	43.9	3247	46.8	3324	49.4
7000	2284	2030	16.6	2256	21.7	2473	27.1	2667	32.5	2855	38.3	3028	44.1	3117	47.2	3199	50.2	3273	53.0	3350	55.9
8000	2610	2131	19.6	2338	25.3	2537	31.1	2729	37.2	2901	43.1	3078	49.7	3155	52.8	3235	56.1	3320	59.7	3398	63.1
9000	2936	2248	23.2	2432	29.1	2615	35.4	2800	42.2	2968	48.7	3132	55.6	3209	58.9	3289	62.5	3373	66.4		
10000	3263	2376	27.3	2553	33.9	2713	40.4	2884	47.7	3037	54.5	3199	62.0	3275	65.7	3346	69.3				
11000	3589	2508	31.8	2678	39.2	2830	46.2	2979	53.5	3132	61.4	3275	68.9	3344	72.7						
12000	3915	2644	37.0	2803	44.7	2954	52.6	3095	60.4	3233	68.4	3371	76.8								
13000	4241	2789	43.0	2935	50.9	3084	59.7	3218	68.0	3343	76.2										

SIZE 301		WITH EVASE		Wheel diameter: 30.0" Wheel circumference: 7.85'				Capacity outlet area: 3.75 ft. ²				Maximum BHP = 3.63 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	1600	1693	14.0	1923	18.9	2136	24.2	2322	29.3	2503	34.9	2670	40.5	2746	43.3	2827	46.3	2895	48.9	2966	51.8
7250	1934	1746	16.8	1969	22.5	2168	28.3	2355	34.5	2523	40.5	2693	47.1	2767	50.2	2846	53.5	2915	56.5	2987	59.8
8500	2267	1816	20.0	2022	26.3	2213	32.7	2394	39.5	2562	46.5	2725	53.9	2799	57.4	2876	61.1	2946	64.7	3019	68.4
9750	2601	1907	23.8	2096	30.7	2278	37.9	2445	45.0	2607	52.6	2765	60.6	2837	64.5	2913	68.8	2984	72.8	3047	76.5
11000	2934	2016	28.3	2181	35.5	2348	43.3	2510	51.4	2662	59.3	2809	67.6	2889	72.4	2957	76.5	3027	81.0		
12250	3268	2131	33.4	2285	41.2	2437	49.5	2587	58.2	2732	67.0	2872	75.8	2937	80.1	3012	85.2				
13500	3601	2249	38.9	2402	47.9	2538	56.4	2679	65.8	2814	75.2	2949	85.0	3015	90.0						
14750	3934	2374	45.4	2515	54.6	2654	64.6	2779	74.1	2906	84.1	3032	94.5								
16000	4268	2504	52.8	2637	62.5	2767	73.0	2892	83.6	3007	93.9										

SIZE 331		WITH EVASE		Wheel diameter: 33.0" Wheel circumference: 8.64'				Capacity outlet area: 4.58 ft. ²				Maximum BHP = 5.85 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	1530	1532	16.4	1746	22.3	1933	28.3	2111	34.6	2267	40.8	2420	47.5	2493	50.9	2562	54.3	2636	58.1	2705	61.8
8500	1858	1576	19.6	1782	26.4	1965	33.4	2135	40.6	2297	48.1	2437	55.2	2508	59.0	2583	63.1	2650	66.9	2712	70.6
10000	2185	1639	23.5	1831	31.0	2007	38.7	2174	46.9	2327	55.2	2474	63.8	2544	68.1	2607	72.1	2674	76.5	2732	80.4
11500	2513	1718	28.0	1888	35.9	2055	44.4	2214	53.2	2362	62.2	2505	71.7	2574	76.5	2638	81.2	2705	86.2	2766	90.8
13000	2841	1810	33.0	1966	41.7	2119	51.0	2269	60.5	2407	69.9	2549	80.3	2610	85.1	2674	90.2	2742	95.8		
14500	3169	1915	39.0	2057	48.3	2196	58.2	2335	68.5	2473	79.3	2602	89.9	2664	95.2	2729	101				
16000	3497	2022	45.6	2159	56.0	2289	66.6	2414	77.4	2538	88.5	2662	100	2719	106						
17500	3824	2131	52.9	2266	64.5	2387	75.7	2502	87.0	2623	99.4	2734	111								
19000	4152	2248	61.7	2372	73.5	2494	86.2	2601	98.0	2712	111										

Performance shown is for HP Backward-curved Fans with evase discharges, with outlet ducts, and with or without inlet ducts. BHP does not include belt losses. Highlighted area indicates maximum mechanical efficiency.

SIZE 361		WITH EVASE		Wheel diameter: 36.5" Wheel circumference: 9.56'				Capacity outlet area: 5.61 ft. ²				Maximum BHP = 9.35 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8750	1560	1379	20.1	1564	27.4	1733	35.2	1885	43.2	2035	52.0	2173	60.9								
10500	1872	1431	24.0	1606	32.3	1761	40.6	1911	49.5	2051	58.8	2184	68.5	2246	73.3	2311	78.6	2369	83.4	2430	88.7
12250	2184	1487	28.1	1656	37.3	1809	46.9	1952	56.8	2081	66.5	2211	77.1	2273	82.4	2329	87.5	2388	92.9	2450	98.9
14000	2496	1556	33.0	1712	42.7	1860	53.3	2000	64.3	2128	75.2	2250	86.5	2304	91.7	2361	97.5	2422	104	2476	109
15750	2808	1637	38.9	1781	49.3	1919	60.2	2046	71.5	2173	83.7	2289	95.7	2352	103	2404	108	2465	115		
17500	3120	1730	46.0	1858	56.7	1983	68.0	2112	80.6	2230	93.1	2349	107	2400	113	2454	120				
19250	3432	1822	53.8	1946	65.4	2063	77.5	2175	89.8	2290	103	2401	117	2454	124						
21000	3744	1919	62.8	2042	75.6	2151	88.3	2255	101	2360	115	2464	129								
22750	4056	2017	72.2	2134	86.5	2241	99.9	2341	114	2442	128										

SIZE 401		WITH EVASE		Wheel diameter: 40.25" Wheel circumference: 10.5'				Capacity outlet area: 6.82 ft. ²				Maximum BHP = 15.2 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11000	1612	1258	25.2	1423	34.2	1573	43.7	1716	54.0	1849	64.7	1971	75.5	2038	81.9						
13000	1906	1302	29.7	1460	39.8	1601	50.1	1736	61.1	1863	72.5	1982	84.4	2039	90.3	2098	96.8	2150	103	2205	109
15000	2199	1352	34.5	1504	45.7	1639	57.1	1770	69.3	1888	81.2	2007	94.3	2064	101	2116	107	2170	114	2217	120
17000	2492	1412	40.2	1553	52.0	1686	64.7	1810	77.7	1928	91.2	2034	104	2092	112	2145	119	2193	125	2243	133
19000	2785	1480	46.8	1606	58.9	1734	72.4	1853	86.4	1972	102	2075	116	2127	123	2175	130	2233	139		
21000	3078	1556	54.5	1675	67.7	1789	81.2	1904	96.1	2015	112	2121	128	2169	136	2220	144				
23000	3371	1637	63.6	1750	77.6	1857	91.9	1963	107	2067	123	2172	141	2216	148						
25000	3665	1718	73.5	1829	88.7	1929	104	2027	120	2127	136	2221	153								
27000	3958	1802	84.3	1909	101	2006	117	2098	133	2189	151										

SIZE 441		WITH EVASE		Wheel diameter: 44.5" Wheel circumference: 11.7'				Capacity outlet area: 8.34 ft. ²				Maximum BHP = 25.2 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
14000	1678	1148	32.2	1294	43.4	1426	55.0	1552	67.5	1676	81.4	1783	94.6	1842	102	1894	109	1949	117	1996	124
16250	1948	1185	37.2	1328	49.9	1455	62.7	1577	76.4	1684	89.7	1799	105	1849	113	1903	121	1950	128	1999	136
18500	2218	1225	42.4	1363	56.4	1487	70.6	1601	85.0	1708	99.8	1817	116	1861	123	1915	132	1965	140		
20750	2487	1274	48.8	1403	63.4	1526	79.1	1636	94.7	1739	111	1843	128	1889	136	1938	145	1982	153		
23000	2757	1334	56.6	1448	71.1	1563	87.4	1673	105	1779	123	1875	141	1923	150	1968	159				
25250	3027	1396	65.0	1503	80.7	1613	98.0	1714	115	1817	135	1911	154	1957	163						
27500	3297	1463	75.0	1566	91.6	1661	109	1761	127	1854	146	1952	168	1995	178						
29750	3566	1530	85.9	1631	104	1721	122	1814	141	1903	161	1992	182								
32000	3836	1597	97.4	1695	117	1786	136	1869	155	1955	176										

SIZE 491		WITH EVASE		Wheel diameter: 49.0" Wheel circumference: 12.8'				Capacity outlet area: 10.1 ft. ²				Maximum BHP = 42.8 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16000	1585	1024	36.7	1162	50.0	1284	63.6	1398	77.9	1500	92.1	1608	109	1652	116	1700	124	1744	132	1790	141
19000	1882	1057	43.3	1190	58.2	1310	73.8	1419	89.6	1519	106	1618	123	1660	130	1708	140	1749	148	1798	158
22000	2180	1093	50.1	1219	66.4	1334	83.5	1446	102	1545	120	1638	138	1682	147	1728	157	1768	166	1810	175
25000	2477	1137	58.1	1257	75.8	1370	94.8	1471	113	1570	134	1665	155	1711	165	1751	175	1794	185	1832	195
28000	2774	1190	67.8	1301	86.5	1407	106	1504	126	1600	148	1692	170	1732	181	1782	194	1820	205	1861	216
31000	3071	1245	78.3	1352	98.9	1449	119	1544	141	1633	163	1723	187	1766	199	1811	213	1846	223		
34000	3368	1301	89.7	1402	112	1499	134	1589	157	1674	181	1758	205	1798	217	1839	231				
37000	3666	1362	103	1459	126	1549	150	1636	175	1721	200	1801	226	1838	238						
40000	3963	1429	119	1516	142	1604	168	1689	194	1770	221	1846	248								

SIZE 541		WITH EVASE		Wheel diameter: 54.25" Wheel circumference: 14.2'				Capacity outlet area: 12.4 ft. ²				Maximum BHP = 71.1 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
19500	1573	925	44.9	1047	60.8	1159	77.6	1264	95.4	1357	113	1448	132	1493	142	1536	152	1582	163	1620	172
23250	1875	952	52.6	1073	71.0	1183	90.3	1282	110	1374	130	1457	149	1503	161	1543	171	1585	182	1621	192
27000	2178	987	61.5	1103	81.8	1208	103	1306	125	1397	147	1482	170	1522	181	1556	191	1600	204	1639	216
30750	2480	1029	71.7	1136	93.3	1236	116	1332	140	1418	164	1505	190	1540	201	1584	215	1616	226	1657	240
34500	2782	1077	83.6	1179	107	1272	131	1361	156	1449	183	1528	209	1570	224	1610	239	1645	252	1682	266
38250	3085	1128	97.0	1223	122	1312	148	1396	174	1477	201	1559	231	1599	247	1635	261	1673	277		
42000	3387	1180	111	1271	138	1356	166	1439	195	1517	224	1594	255	1631	270	1664	285				
45750	3690	1237	128	1324	157	1407	187	1484	217	1558	247	1631	280	1666	296						
49500	3992	1298	148	1376	177	1455	208	1533	242	1604	274	1675	308								

Performance shown is for HP Backward-curved Fans with evase discharges, with outlet ducts, and with or without inlet ducts. BHP does not include belt losses. Highlighted area indicates maximum mechanical efficiency.

SIZE 601		WITH EVASE		Wheel diameter: 60.0" Wheel circumference: 15.7'				Capacity outlet area: 15.1 ft. ²				Maximum BHP = 118 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
24000	1589	835	54.9	950	75.1	1046	94.9	1141	117	1225	138	1311	162	1347	173	1391	187	1428	199	1467	236
28500	1887	861	64.4	970	87.1	1066	110	1156	134	1239	158	1321	184	1356	196	1392	209	1431	223	1479	264
33000	2185	893	75.3	995	99.6	1092	126	1181	153	1259	179	1336	207	1372	220	1411	235	1444	249	1495	292
37500	2483	931	87.8	1027	114	1118	142	1203	171	1282	200	1356	230	1394	246	1428	261	1464	277	1517	323
42000	2781	970	101	1063	130	1149	160	1231	191	1308	223	1380	255	1420	274	1451	289	1483	305		
46500	3079	1015	117	1102	148	1184	179	1261	212	1336	246	1408	281	1444	300	1477	318	1507	334		
51000	3377	1063	134	1146	168	1222	200	1298	236	1370	272	1437	309	1471	328	1503	346				
55500	3675	1112	154	1192	190	1266	226	1337	262	1406	300	1470	338	1502	358						
60000	3974	1167	178	1238	213	1311	252	1380	291	1446	332	1508	371								

SIZE 661		WITH EVASE		Wheel diameter: 66.0" Wheel circumference: 17.3'				Capacity outlet area: 18.4 ft. ²				Maximum BHP = 190 $\left[\frac{\text{RPM}}{1000} \right]^3$									
CFM	OV	12"SP		16"SP		20"SP		24"SP		28"SP		32"SP		34"SP		36"SP		38"SP		40"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
29500	1604	764	68.0	864	92.0	956	117	1036	142	1118	171	1192	199	1229	214	1261	227	1298	243	1329	257
35000	1903	785	79.2	885	107	972	135	1054	164	1129	194	1203	225	1234	240	1267	255	1302	272	1334	289
40500	2202	816	92.6	909	123	993	153	1073	186	1149	220	1219	254	1252	271	1281	286	1317	306	1349	324
46000	2501	848	107	938	140	1019	174	1095	209	1167	245	1239	284	1269	301	1300	319	1332	339	1366	360
51500	2801	889	125	969	159	1048	196	1122	234	1192	273	1258	313	1289	333	1322	354	1352	374	1383	396
57000	3100	929	145	1008	182	1083	221	1150	260	1219	302	1284	345	1313	366	1344	388	1375	411		
62500	3399	971	165	1048	207	1118	248	1185	290	1251	335	1309	377	1340	401	1372	426				
68000	3698	1019	191	1090	234	1158	278	1221	322	1280	367	1343	416	1372	441						
73500	3997	1070	221	1134	264	1199	311	1260	358	1321	408	1375	455								

Performance shown is for HP Backward-curved Fans with evase discharges, with outlet ducts, and with or without inlet ducts. BHP does not include belt losses. Highlighted area indicates maximum mechanical efficiency.

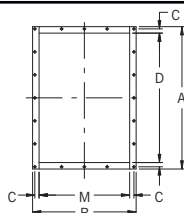
MATERIAL SPECIFICATIONS [INCHES, POUNDS, WR ² IN LB-FT ²]												
Size	Housing		Base bars	Base angles	Inlet flange angles	Outlet flange angles	Bearing pedestal	Wheel				Bare fan weight [lbs.]:‡
	Side and scroll	Side channels						Blades	Backplate	Weight [lbs.]*	WR ² [lbs.-ft. ²]*	
241	3/16	3"-4.1#	3 x 3/8	3 x 2 x 3/16	1 1/2 x 1 1/2 x 3/16	1 1/4 x 1 1/4 x 3/16	3/8	3/16	7 GA	105	47	830
271	3/16	3"-4.1#	3 x 3/8	3 x 2 x 3/16	1 1/2 x 1 1/2 x 3/16	1 1/4 x 1 1/4 x 3/16	3/8	3/16	7 GA	120	66	965
301	1/4	3"-4.1#	3 x 3/8	3 x 2 x 3/16	2 x 2 x 3/16	1 1/2 x 1 1/2 x 3/16	3/8	3/16	7 GA	140	98	1244
331	1/4	4"-5.4#	4 x 1/2	4 x 3 x 1/4	2 x 2 x 3/16	1 1/2 x 1 1/2 x 3/16	3/8	3/16	7 GA	160	141	1584
361	1/4	4"-5.4#	4 x 1/2	4 x 3 x 1/4	2 x 2 x 3/16	1 1/2 x 1 1/2 x 3/16	3/8	3/16	1/4	240	256	1924
401	1/4	4"-5.4#	4 x 1/2	4 x 3 x 1/4	2 x 2 x 3/16	1 1/2 x 1 1/2 x 3/16	3/8	1/4	1/4	335	439	2185
441	1/4	4"-5.4#	4 x 1/2	4 x 3 x 1/4	2 x 2 x 3/16	2 x 2 x 3/16	3/8	1/4	1/4	390	641	2686
491	1/4	4"-5.4#	4 x 1/2	4 x 3 x 1/4	2 x 2 x 3/16	2 x 2 x 3/16	3/8	1/4	1/4	450	926	3086
541	1/4	5"-6.7#	5 x 5/8	5 x 3 1/2 x 5/16	2 x 2 x 3/16	2 x 2 x 3/16	3/8	1/4	1/4	530	1374	3850
601	1/4	5"-6.7#	5 x 5/8	5 x 3 1/2 x 5/16	2 x 2 x 3/16	2 x 2 x 3/16	3/8	1/4	1/4	625	2052	4486
661	1/4	5"-6.7#	5 x 5/8	5 x 3 1/2 x 5/16	2 x 2 x 3/16	2 x 2 x 3/16	3/8	1/4	1/4	895	3358	5567
731	1/4	5"-6.7#	5 x 5/8	5 x 3 1/2 x 5/16	2 x 2 x 3/16	2 x 2 x 3/16	3/8	3/8	3/8	1390	6685	—
801	1/4	5"-6.7#	5 x 5/8	5 x 3 1/2 x 5/16	2 x 2 x 3/16	2 x 2 x 3/16	3/8	3/8	3/8	1645	9867	—
891	1/4	5"-6.7#	5 x 5/8	5 x 3 1/2 x 5/16	2 x 2 x 3/16	2 x 2 x 3/16	3/8	3/8	3/8	1960	14452	—

* Wheel weight and WR2 will change with special diameter and narrow-width construction. Consult **nyb**.

‡ Bare fan weights for Arr. 4 and Arr. 8 fans are available on application. Consult **nyb**.

FLANGED OUTLET AND EVASE

1. Mounted flush with edge of housing outlet.
2. Furnished as standard with holes on 4" centers from centerlines.

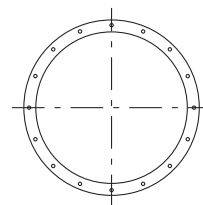


DIMENSIONS [INCHES]											
Size	A		B†	C	D		M†	Standard holes			
	Fan	Evase			Fan	Evase		Sides		Size	
								Fan	Evase		†Top/ bottom
241	23	32 3/4	15	3/4	20 1/2	30 1/4	12 1/2	5	9	3	7/16
271	25	36	16 1/4	3/4	22 1/2	33 1/2	13 3/4	7	9	3	7/16
301	27 3/8	39 1/2	17 3/4	3/4	24 7/8	37	15 1/4	7	9	3	7/16
331	30 3/8	44	19 3/4	7/8	27 3/8	41	16 3/4	7	11	3	7/16
361	33 1/4	48 1/2	21 1/2	7/8	30 1/4	45 1/2	18 1/2	9	11	5	7/16
401	36 1/2	53	23 3/8	7/8	33 1/2	50	20 3/8	9	13	5	7/16
441	39 7/8	58 1/4	25 1/2	7/8	36 7/8	55 1/4	22 1/2	9	15	5	7/16
491	44 3/4	64 7/8	28 5/8	1 1/8	40 3/4	60 7/8	24 5/8	11	15	5	9/16
541	48 7/8	71 1/4	31 1/4	1 1/8	44 7/8	67 1/4	27 1/4	11	17	7	9/16
601	53 5/8	78	34 1/8	1 1/8	49 5/8	74	30 1/8	13	19	7	9/16
661	58 5/8	85 7/8	37	1 1/8	54 5/8	81 7/8	33	15	21	9	9/16
731	64 3/8	94 1/2	40 1/2	1 1/8	60 3/8	90 1/2	36 1/2	15	23	9	9/16
801	70 7/8	103 1/2	44 3/8	1 1/8	66 7/8	99 1/2	40 3/8	17	25	9	9/16
891	77 1/2	114	48 3/8	1 1/8	73 1/2	110	44 3/8	19	29	11	9/16

†Dimensions will vary with narrow-width construction. Tolerance: ± 1/8"

FLANGED INLET

Furnished as standard with holes on vertical centerline.



DIMENSIONS [INCHES]					
Size	Inside diameter	Bolt circle	Outside diameter	Holes	
				Number	Diameter
241	21 3/4	23 1/2	24 3/4	16	9/16
271	24 3/8	26 1/8	27 3/8	16	9/16
301	26 7/8	29 1/8	30 7/8	16	9/16
331	29 1/2	31 3/4	33 1/2	16	9/16
361	32 7/8	35 1/8	36 7/8	16	9/16
401	36 1/8	38 3/8	40 1/8	16	9/16
441	40 1/8	42 3/8	44 1/8	16	9/16
491	43 7/8	46 1/8	47 7/8	24	9/16
541	48 7/8	51 1/8	52 7/8	24	9/16
601	53 7/8	56 1/8	57 7/8	24	9/16
661	59 3/8	61 5/8	63 3/8	24	9/16
731	66 1/8	68 3/8	70 1/8	32	9/16
801	72 5/8	74 7/8	76 5/8	32	9/16
891	80 5/8	82 7/8	84 5/8	32	9/16

Tolerance: ± 1/8"

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

ALL ARRANGEMENTS

Size	A				B	BB	C	D	DD	E	F	G	H†		J	K	
	TH/TAD	BH/BAU	UB/TAU	DB									Arr. 1	Arr. 8		Arr. 1	Arr. 8
241	21¼	28¾	24¾	20½	20½	48	22⅝	20⅝	30¼	16⅜	26⅝	19¼	41	41	5	5½	5½
271	23½	31¾	27¼	22½	22½	52¾	25	22⅝	33½	18	29⅝	21⅝	44¾	44¾	5	6	6
301	26¼	35¼	30¼	25	25	58	27¾	24⅞	37	20	32¾	23⅝	48¾	48¼	5	6½	6
331	28¾	38¾	33¼	27½	27½	64⅝	30½	27⅝	41	22	35⅞	25⅞	53¼	52¾	6	7	6
361	31¾	42¾	36¾	31	31	72½	33¾	30¼	45½	24⅜	39¾	28⅝	58	56½	6	7½	6
401	35	47¼	40½	33½	33½	78½	37⅝	33½	50	26¾	43¾	31½	64⅝	63⅝	6	8	7
441	38¾	52¼	44¾	37	37	87⅞	41	36⅞	55¼	29⅝	48⅝	34⅞	70	68½	6	8½	7
491	42½	57¼	49¼	40	40	95	45⅝	40¾	60⅞	32½	53¼	38⅝	74⅞	72⅞	6	9	7
541	47	63½	54½	44	44	105⅞	50	44⅞	67¼	36	58⅞	42⅝	79¾	77¼	7	9½	7
601	52	70¼	60¼	48½	48½	115⅞	55¼	49⅝	74	39¾	65⅞	46⅞	85⅞	83⅞	7	10	8
661	57	77	66¼	53	53	127⅞	60¾	54⅞	81⅞	43¾	71½	51½	90½	88	7	10½	8
731	See Table for Sizes 731 through 891 below.				59	141⅞	67⅞	60⅝	90½	48⅝	79⅞	57	NA	93½	7	NA	8
801					65½	154¾	74⅞	66⅞	99½	53⅝	87½	63	NA	99⅝	7	NA	8
891					72	172⅝	81¾	73½	110	58⅞	96⅝	69⅝	NA	106⅝	7	NA	9

NA – Not available.

Size	L	M†	N		O†	P	R†	S		T	U	W	a	b	c	d	Base holes
			Arr. 1	Arr. 8				Arr. 1	Arr. 8								Arr. 1
241	21¾	12½	18	18	36⅞	28⅞	7¾	17⅝	17⅝	14	17	15½	20⅞	33⅝	24⅝	17¾	8-¾"
271	24⅜	13¾	20	20	39⅝	30⅞	8⅝	19⅝	19⅝	15⅝	18½	16⅞	23	36⅝	27⅞	19½	8-¾"
301	26⅞	15¼	22	22	42⅞	34¼	9⅞	21⅝	21⅝	17⅝	20¼	18⅞	25⅝	40¾	30⅞	21¾	8-¾"
331	29½	16¾	24	24	48⅝	37⅞	10⅝	23⅝	23⅝	19	22¼	21	28⅞	44⅞	33⅞	23⅞	8-¾"
361	32⅞	18½	26	26	52⅞	41¾	11¼	12⅞	12⅞	20½	24¼	22½	31⅞	50	36⅝	26⅞	10-1"
401	36⅞	20⅝	30	30	58	45¾	12¼	14⅞	14⅞	21¼	26	23¼	34¼	54⅞	40⅝	26⅞	10-1"
441	40⅞	22½	33	33	63⅞	50⅝	13¼	16⅝	16⅝	23	28½	25	37⅞	60⅝	44⅝	32⅞	10-1"
491	43⅞	24⅝	35	35	67¼	55¼	14⅝	17⅝	17⅝	24	31	26	41⅝	65⅞	49⅞	35⅝	10-1"
541	48⅞	27¼	36	36	72⅞	61⅝	16⅞	17⅞	17⅞	27	33¾	29½	46⅞	72¾	54⅞	39⅞	10-1"
601	53⅞	30⅞	38	38	77¾	67⅞	17⅝	18⅞	18⅞	29	37¼	31½	51	80¼	60⅞	43¼	10-1"
661	59⅝	33	40	40	82⅞	74	19	19⅞	19⅞	31	40½	33½	56	88	66⅞	47½	10-1"
731	66½	36½	NA	42	88⅞	81⅝	20¾	NA	20⅞	33	44½	35½	62	97⅝	73	52½	NA
801	72⅞	40⅝	NA	44	94	90	22¾	NA	21⅞	40	50⅞	42½	68½	108⅞	80¾	58⅞	NA
891	80⅝	44⅝	NA	46	100	98⅞	24¾	NA	22⅞	45	55¼	47½	75½	119	89	64	NA

NA – Not available.

SIZES 731 through 891 only – ARRANGEMENT 8

Size	A								Outlet area [sq. ft.]		Wheel diameter [inches]	Wheel circumference [feet]
	TH	TAD	BH	UB	TAU	DB	Fan	Evase				
731	63¼	58¾	85½	79½	73½	68¼	59	15.0	22.5	73	19.1	
801	70	65¼	94½	88	81¼	75½	65½	18.4	27.4	80¾	21.1	
891	77	71¾	104	96¾	89½	83¼	72	22.2	33.4	89	23.2	

ARRANGEMENT 4/8

Size	Frame size	N		O†		S		SS		Base holes	
		Arr. 4	Arr. 8	Arr. 4	Arr. 8	Arr. 4	Arr. 8	Arr. 4	Arr. 8	Arr. 4	Arr. 8
241	364TS	21⅝	55⅞	36⅞	64⅝	17⅞	13⅞	7-¾"	11-¾"		
	365TS	22⅝	56⅞	37⅞	65⅞	18⅞	14⅝	7-¾"	11-¾"		
	404TS	23⅞	57⅝	38⅞	66⅞	19⅝	15	7-¾"	11-¾"		
	405TS	24⅝	58⅞	40⅞	68⅞	21⅞	15¾	7-¾"	11-¾"		
271	404TS	23⅞	60½	39⅞	70⅝	19⅝	15¼	7-¾"	11-¾"		
	405TS	24⅝	62	41⅝	71⅞	21⅞	16	7-¾"	11-¾"		
	444TS	27¼	65½	44	75	11⅞	17⅞	9-¾"	11-¾"		
	445TS	29¼	67⅞	46	77	12⅞	18⅞	9-¾"	11-¾"		
301	444TS	27¼	67⅞	45½	78½	11⅞	17⅞	9-¾"	11-¾"		
	445TS	29¼	69⅞	47½	80½	12⅞	18⅞	9-¾"	11-¾"		
	447TS	29¼	73⅝	47½	84	12⅞	20⅞	9-¾"	11-¾"		
	449TS	33¾	78⅝	52	89	15⅞	22⅞	9-¾"	11-¾"		
331	444TS	27¼	70⅝	48	83	11⅝	17⅞	9-¾"	11-¾"		
	445TS	29¼	72⅞	50	85	12⅞	18⅞	9-¾"	11-¾"		
	447TS	29¼	76⅞	50	88½	12⅞	20⅞	9-¾"	11-¾"		
	449TS	33¾	81⅞	54½	93½	14⅞	22⅞	9-¾"	11-¾"		
361	364T	21⅝	68¾	43⅞	82	17⅝	14⅞	7-1"	13-1"		
	365T	22⅝	69¾	44⅞	83	18⅝	15⅞	7-1"	13-1"		
	404T	23⅞	71⅞	45⅞	85⅞	19⅞	16½	7-1"	13-1"		
	405T	24⅝	73⅝	47⅞	86⅞	20⅞	17¼	7-1"	13-1"		
401	404T	23⅞	77⅞	47½	92	19⅞	17	7-1"	13-1"		
	405T	24⅝	79⅞	49	93½	20⅞	17¾	7-1"	13-1"		
	444T	27¼	83⅞	51⅞	97⅞	11⅞	19⅞	9-1"	13-1"		
	445T	29¼	85⅞	53⅞	99⅞	12⅞	20⅞	9-1"	13-1"		
441	444T	27¼	87¼	53¾	102½	11⅞	19⅞	9-1"	13-1"		
	445T	29¼	89¼	55¾	104½	12⅞	20⅞	9-1"	13-1"		
	447T	32¾	92¾	59¼	108	14⅝	22⅞	9-1"	13-1"		
491	445T	29¼	92⅞	57⅞	108⅞	12⅞	20⅞	9-1"	13-1"		
	447T	32¾	95⅞	61⅞	112⅞	14⅝	22⅞	9-1"	13-1"		
	449T	38¾	100⅞	67⅞	117⅞	17⅝	24⅞	9-1"	13-1"		

ARRANGEMENT 8 ONLY

Size	Frame size	NN†		O†	SS		Base holes	
		Arr. 4	Arr. 8		Arr. 8	Arr. 8	Arr. 8	
541	445T	94⅞	113¼	207/16	207/16	13-1"		
	447T	98⅞	116¾	229/16	229/16	13-1"		
	449T	103⅞	121¾	241/16	241/16	13-1"		
601	445T	99⅞	119⅞	219/16	219/16	13-1"		
	447T	102⅞	122⅞	221/16	221/16	13-1"		
	449T	107⅞	127⅞	253/16	253/16	13-1"		
661	445T	102½	124	201/16	201/16	13-1"		
	447T	106	127½	221/16	221/16	13-1"		
	449T	111	132½	253/16	253/16	13-1"		
731	445T	106	129¼	31⅞	31⅞	13-1"		
	447T	109½	132¾	32⅞	32⅞	13-1"		
	449T	114½	137¾	35⅝	35⅝	13-1"		
801	445T	109⅞	135⅞	31⅞	31⅞	13-1"		
	447T	113⅞	138⅞	33⅞	33⅞	13-1"		
	449T	118⅞	143⅞	35⅞	35⅞	13-1"		
891	445T	114⅞	142⅞	32⅞	32⅞	13-1"		
	447T	118⅞	145⅞	34⅞	34⅞	13-1"		
	449T	123⅞	150⅞	36⅞	36⅞	13-1"		

† Dimensions may vary with narrow-width construction.
NOTE: For fan sizes larger than 49, motors typically exceed NEMA frame sizes. Therefore, dimensions must be on application.

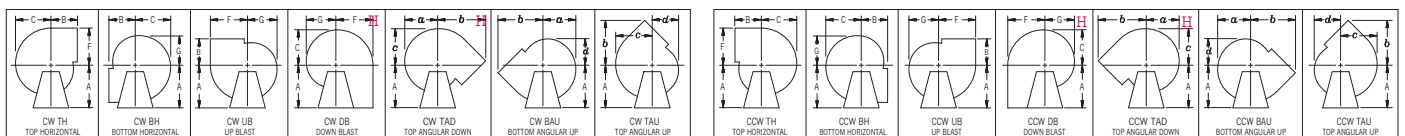
Tolerance: ± 1/8"

<p>ARRANGEMENT 1</p>	<p>① Omitted on Sizes 24 through 33.</p>
<p>ARRANGEMENT 4</p>	
<p>ARRANGEMENT 8</p>	<p>① Omitted on Sizes 24 through 33.</p>

② Base bars form flanged outlet on Down Blast.

M, D, and DD are outside housing dimensions. J is from housing side over inlet. L is inside diameter.

FAN DISCHARGES – VIEWED FROM DRIVE SIDE



Clockwise—angular discharges at 45°

Counterclockwise—angular discharges at 45°

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

The New York Blower Company has a policy of continuous product development 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.



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



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.

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—



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



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.