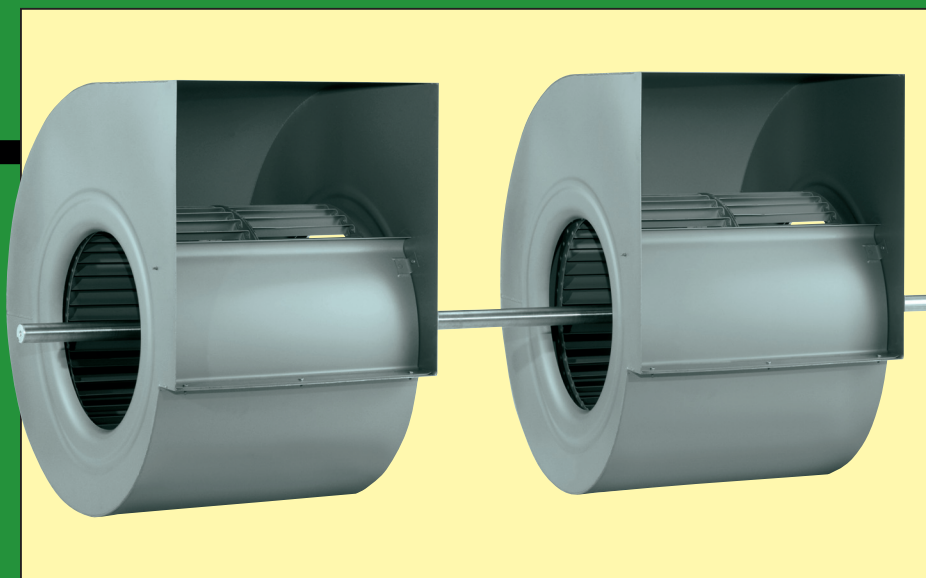
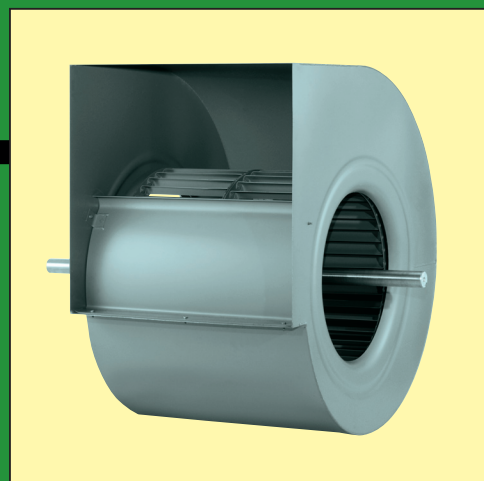


SINGLE AND DOUBLE AIR KITS



DOUBLE AIR KITS

- Capacities to 100,000 CFM
- Pressures to 6" WG
- Temperatures to 1000°F.



SINGLE AIR KITS

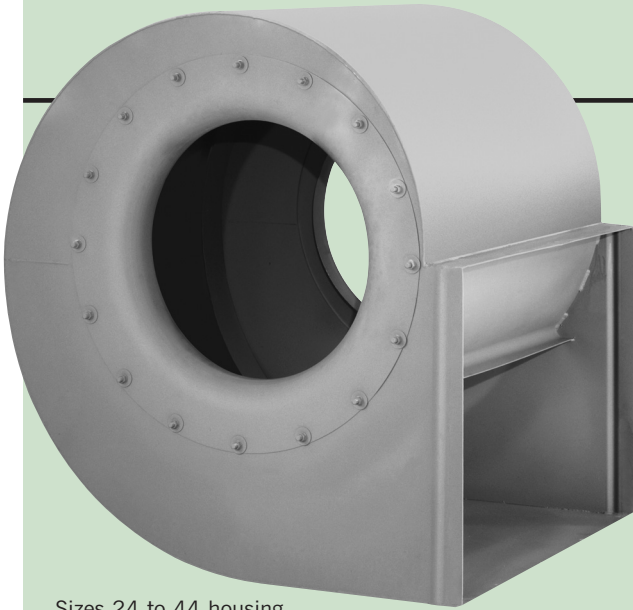
- Capacities to 84,000 CFM
- Pressures to 6" WG
- Temperatures to 1000°F.



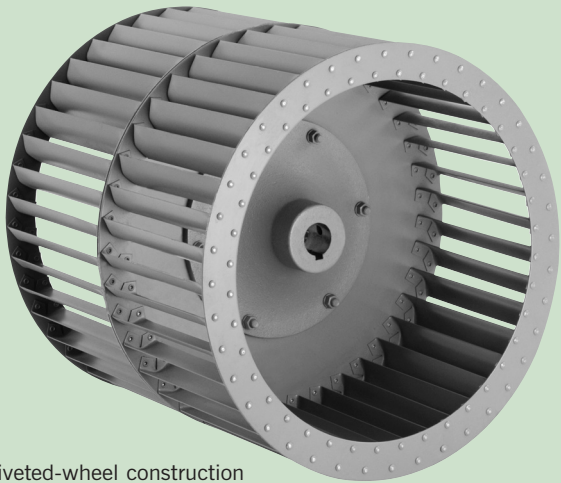
THE NEW YORK BLOWER COMPANY
7660 Quincy Street
Willowbrook, IL 60527-5530

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

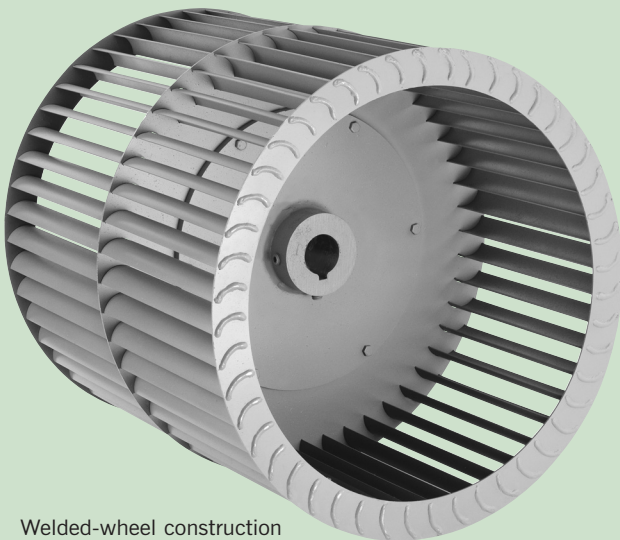
AIR KITS



Sizes 24 to 44 housing.



Riveted-wheel construction
Sizes 12 to 22.



Welded-wheel construction
Sizes 24 to 44.

Air Kits are ideal for applications where even air distribution is critical and where plenum construction and space limitations favor slower speed, center-hung fan designs.

DESIGN FEATURES

- Two models to choose from:
Single Air Kits in Sizes 12" to 44" for capacities to 84,000 CFM.
Double Air Kits in Sizes 12" to 33" for capacities to 100,000 CFM.
- Pressures to 6"WG.
- Operating temperatures to:
800°F. with standard wheels.
1000°F. with stainless-steel wheels.
- Forward-curved wheel:
Double width-double inlet for maximum capacity.
Slow speeds for quiet operation and economical shaft diameters.
Time-tested operating clearances for ease of installation and system expansion at operating temperature.
- Suitable for clockwise and counterclockwise applications.

CONSTRUCTION FEATURES

- **Housing**—continuously welded, heavy-gauge steel. Sizes 12" to 22" have streamlined venturi inlets pressed into housing sides.
- **Wheels**—double width-double inlet with optimized number and spacing of forward-curved blades. Riveted construction in Sizes 12" to 22", welded construction in Sizes 24" to 44".
- **Balance**—all wheels receive a centrifugal precision-balance prior to shipment.
- **Finish**—high-temperature, industrial-grade coating suitable for applications at 1000°F.
- **Shafting**—turned, ground, and polished shafting is straightened to close tolerance to minimize "run-out" and ensure smooth operation.

5-PART SIZING NOMENCLATURE

EXAMPLE				
X	12	B	23	2
	Wheel diameter [inches].	Current design sequence.	Shaft diameter [sixteenths of an inch].	
X = Non-standard Air Kit. No letter = Standard Air Kit.				1 = Single Air Kit. 2 = Double Air Kit.

ACCESSORIES

MODIFICATIONS

● ACCESS DOOR

Flush-bolted access door allows for system inspection and ease of wheel removal. Closely spaced studs hold bolted access door firmly against gasketing to minimize leakage. With housing in clockwise Top Horizontal discharge, door available at 6, 9, and 12 o'clock positions.

● SHAFT-COOLER ASSEMBLY

Includes cast-aluminum wheel, cooler cone, and metal guard. Dissipates heat prior to bearings. Recommended for applications 300°F. and above.

● SHAFTING

High-quality, hot-rolled, turned, ground, and polished of the appropriate alloy. Keyways and turndowns per specification.

● SPECIAL-ALLOY CONSTRUCTION

Airstream components can be constructed of a wide range of alternate alloys for temperature and corrosion resistance including 304, 316, and 347 stainless steel.

● BEARINGS

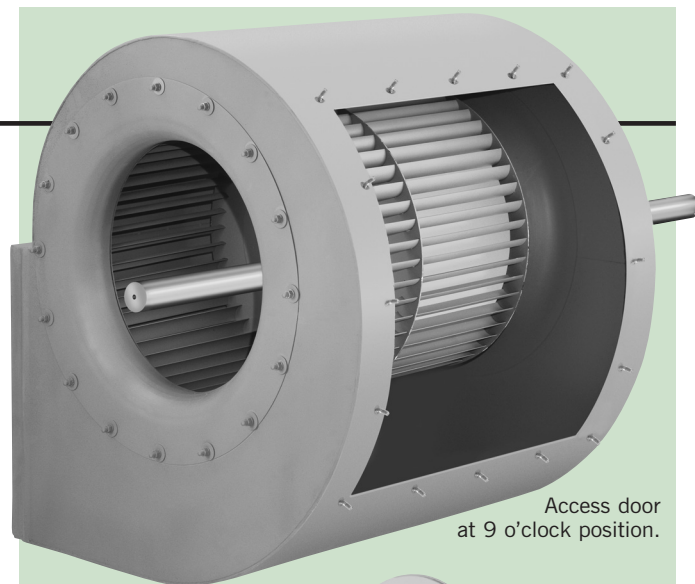
Pillow-block ball bearings pre-selected by shaft size for extended service life. Bearing pair includes one fixed and one expansion bearing to allow for thermal growth of the shaft.

● STRAIGHTENING VANES

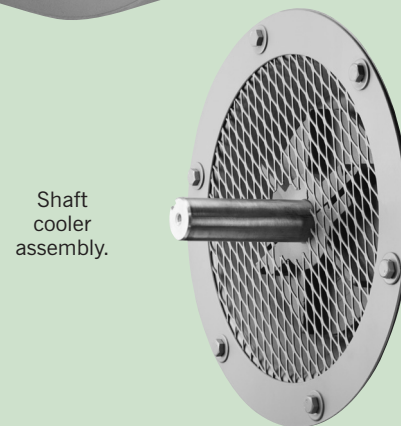
Installed in Air Kit inlets. Straightening vanes eliminate the need for baffles in closed plenums by preventing the spinning of air at the inlet.

● OTHER ACCESSORIES

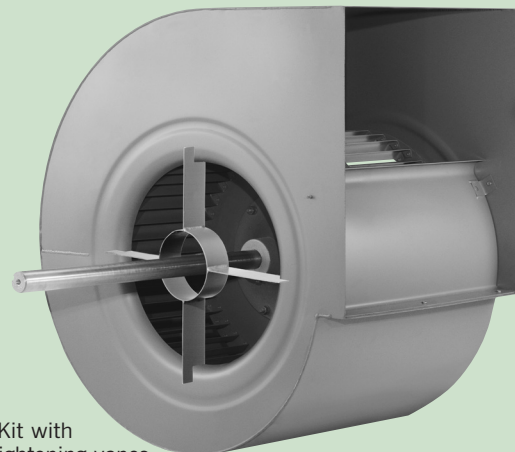
Also available from **nyb** are drive components such as motors and v-belt drives as well as a variety of preventative-maintenance products including vibration detectors and bearing-temperature detectors.



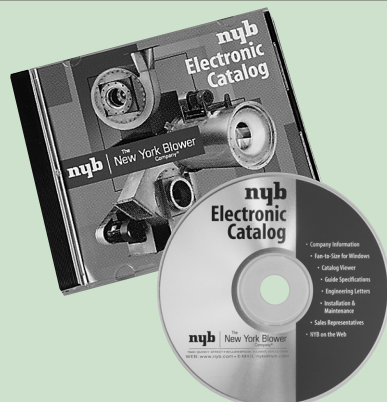
Access door at 9 o'clock position.



Shaft cooler assembly.



Air Kit with straightening vanes.



ELECTRONIC CATALOG

A complete New York Blower Catalog on one CD. No more manual calculations and bulky product catalogs. A critical tool for all system-designers and engineers who select and specify air-moving equipment.

SELECTION BENEFITS

- Fast, accurate fan selection.
- Automatic altitude, temperature, and density corrections.
- Sound levels by octave band.
- Fan-performance curves.
- Multiple model and size choices.
- Metric or English units.

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- Complete product catalog in PDF including drawings, dimensions, and design specifications.
- Sample guide specifications.
- New York Blower Engineering Letters.
- Installation and Maintenance Manuals.
- Listing of New York Blower representatives.

To obtain your copy of New York Blower's Electronic Catalog contact your local New York Blower representative or go to www.nyb.com and click on *Selection Software*.

PLENUM DESIGN

The capacity tables on pages 7, 8, and 9 are based on laboratory tests of Air Kits without plenums [no restriction to airflow]. When Air Kits are mounted in restricted areas, the performance may be affected. The following plenum information will assist the system designer in identifying and applying the appropriate correction factors to obtain the desired catalog rating.

OPEN PLENUM **Air enters from more than one direction.**

CHART I
OPEN PLENUM FACTORS
Do not use for closed plenums.

A in % of wheel diameter	Multiply	
	RPM by	BHP by
33 1/3% or more	1.00	1.00
30%	1.01	1.03
25%	1.04	1.13
20%	1.10	1.33
15% or less	Poor design	

The diagrams show two types of open plenum configurations. The 'Double Air Kit' configuration has two air kits side-by-side, each with a distance 'A' from the centerline to the inlet, resulting in a total width of '2A'. The 'Single Air Kit' configuration has one air kit centered, with a distance 'A' from the centerline to the inlet.

CLOSED PLENUM **Air enters from only one direction.**

Air Kit performance will change due to restriction at the inlet or spinning of air into inlet. Spinning can be eliminated by centering fan inlets in plenum, by designing baffles as shown, or by installing optional straightening vanes.

When Z dimension is greater than two times wheel diameter, consider plenum as open type.

BEST DESIGNS C = D, fan inlet is centered in airflow.	GOOD DESIGNS Fans not centered in airflow but vanes or baffles installed to balance airflow into inlets.
POOR DESIGNS Fan inlets not centered and no baffles used.	

CHART II VELOCITY PRESSURES			
Outlet velocity	Velocity pressure	Outlet velocity	Velocity pressure
800	.040	2600	.422
1000	.063	2800	.489
1200	.090	3000	.560
1400	.122	3200	.638
1600	.160	3400	.721
1800	.202	3600	.808
2000	.250	3800	.900
2200	.302	4000	.998
2400	.360	4200	1.100

CHART III CLOSED PLENUM CORRECTION FACTORS							
A in % of wheel diameter	VP / SP =	33 1/3%		40%		60%	
		RPM	BHP	RPM	BHP	RPM	BHP
Velocity Pressure divided by Static Pressure	.1	1.02	1.10	1.02	1.07	1.01	1.03
	.2	1.04	1.15	1.04	1.11	1.02	1.06
	.3	1.06	1.20	1.05	1.14	1.02	1.07
	.5	1.08	1.25	1.06	1.19	1.03	1.08
	.75	1.11	1.29	1.07	1.22	1.03	1.09
	1.0	1.12	1.32	1.07	1.23	1.03	1.10
	2.0	1.15	1.37	1.07	1.24	1.04	1.11
	3.0	1.16	1.42	1.08	1.25	1.04	1.12
	5.0	1.17	1.48	1.08	1.26	1.05	1.12

CLOSED PLENUM EXAMPLE

Assume: 3600 fpm fan outlet velocity, 4" static pressure, A = 33 1/3% wheel diameter.

1. Velocity Pressure from Chart II at 3600 FPM = .808
2. Velocity Pressure / Static Pressure = $\frac{.808}{4.0} = .2$
3. From Chart III multiply RPM by 1.04 and multiply BHP by 1.15

AIR KIT ENGINEERING

GENERAL

Air Kits are an integral part of the ovens and dryers in which they are installed. As such, New York Blower sales representatives work closely with OEM project engineers in assessing requirements and meeting critical performance and dimensional specifications. Because of the wide variety of plenum designs and Air Kit configurations available final selection should be made using New York Blower's Electronic Catalog software.

SINGLE OR DOUBLE AIR KITS

The choice of a single or double fan arrangement must be made to determine specific fan capabilities. Space availability, uniform air distribution, performance requirements, and past plenum designs must all be considered in the choice of single or double Air Kits.

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. Multiply the required static pressure at operating conditions by the appropriate factors in Charts 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 both temperature and altitude are non-standard. For example, if the installation is located at an altitude of 4000 feet and the gas temperature is 300°F., the correction factor is 1.66 [1.16 x 1.43].

CHART IV ALTITUDE [ft.] CORRECTIONS	
Altitude	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

CHART V TEMPERATURE CORRECTIONS	
Temp. °F.	Factor
0	.87
70	1.00
100	1.06
150	1.15
200	1.25
250	1.34
300	1.43
400	1.62
500	1.81
600	2.00
800	2.23
900	2.56
1000	2.76

MATERIALS OF CONSTRUCTION

Standard, mild-steel, Air Kit construction is generally satisfactory for temperatures up to 800°F. 304 and 316 stainless steel is available if desired.

Between 800°F. and 1000°F. mild-steel housings are satisfactory; however, wheels must be constructed of stainless steel with hubs of cast iron to limit growth.

Chart VI gives the factors to use in correcting maximum wheel and shaft safe speeds at 70°F. given in Chart VII and curves on pages 11 to 14. The safe speed of the complete Air Kit is the lower of the corrected wheel and shaft speeds.

CHART VI AIR KIT WHEEL AND SHAFT TEMPERATURE DERATES						
Temp. °F.	Wheel				Shaft	
	Steel	304	316	347	Steel	316
70	1.00	1.00	1.00	1.00	1.00	0.96
200	0.96	0.93	0.96	0.96	0.99	0.95
300	0.92	0.88	0.92	0.93	0.98	0.94
400	0.89	0.84	0.89	0.91	0.97	0.93
500	0.86	0.80	0.85	0.89	0.96	0.92
600	0.83	0.78	0.84	0.87	0.94	0.91
700	0.80	0.75	0.82	0.86	0.92	0.90
800	0.67	0.74	0.80	0.84	0.89	0.89
900	—	—	0.79	0.83	—	0.87
1000	—	—	0.78	0.81	—	0.86

HEAT FANS

Fans handling hot airstreams must be kept in operation after system shutdown until the airstream cools below 200°F. to prevent damage to the fan. The fan wheel or shaft might otherwise distort due to "heat-soaking". The optional shaft cooler is only effective while rotating. Contact **nyb** when the application involves temperature changes greater than 20°F. per minute.

Gas and oil burners should be placed such that the air is thoroughly mixed before entering the fan inlet. Placing the burner so that a very hot stream of air enters one fan inlet could cause unusually high temperature and fan failure. High-limit temperature controls should be placed at the fan inlet or inlets.

AIR KIT ENGINEERING AND SELECTION

BEARING EXPANSION

Steel shafts expand .0000067 [316 stainless steel = .000009] inches per inch of shaft length per degree Fahrenheit. This is 1/2" for a 10-foot-long shaft heated 600°F. Therefore, whenever an Air Kit handles high temperature air, allowances must be made to avoid binding the bearings and causing premature bearing failure.

Standard pillow-block bearings do not provide for expansion and can only be used in low-temperature applications or in unusual applications where the bearing supports have the same expansion characteristics as the shaft.

Expansion bearings with limited expansion capability are available but most do not offer the degree of expansion required for these applications.

nyb offers expansion bearings specifically designed for use with Air Kits. Bearing pairs include one expansion and one fixed bearing [drive end]. The expansion bearing includes a special high-heat key to allow for thermal expansion.

SHAFTING

Any rotating body will exhibit severe vibration when operated at a particular speed called the critical speed. Safe speeds as shown in this bulletin are based on 80% of this critical speed which is dependent on:

Bearing centers	Location and weight of
Shaft material [SAE 1040]	drive sheave
Shaft diameter[s]	Location and weight of
Temperature of operation	wheels

The pre-calculated safe speeds given in Chart VII are based on standard dimensions as shown. It is usually possible to design oven construction so that bearing supports and cabinet dimensions meet standard Air Kit dimensions. Any variation from standard dimensions will require a change in safe speeds as indicated on pages 11-14.

Air Kit shafting must be high quality, hot rolled, turned, ground and polished of the appropriate alloy. Expansion and contraction in oven and dryer work aggravates any looseness in the wheel-shaft fit. Cold rolled shafting is not acceptable. Air Kit shafting is straightened after all machining to a maximum runout of .002 inches.

HOW TO SELECT AN AIR KIT

PROCEDURES	STEPS	EXAMPLE: Select an Air Kit for an oven requiring 8000 CFM at 3"WG at 70°F. with operating temperature of 700°F., 4" walls approximately 4 1/2 feet apart in a closed-plenum design.
Determine Air Kit size and if one or two fans are to be used.	1	There are three possible selections: 1. Double Size 12 Air Kit at 2564 OV, 1483 RPM at 7.24 BHP. 2. Double Size 15 Air Kit at 2000 OV, 1174 RPM at 6.06 BHP. 3. Single Size 18 Air Kit at 2492 OV, 948 RPM at 5.93 BHP. Selection 1 has a high BHP and OV. Selection 3 is more efficient but OV is fairly high. The Double combination of selection 2 gives the best air distribution across oven and is efficient. Use a Double Size 15 Air Kit.
Determine plenum design and bearing-center distance.	2	Using a predesigned Air Kit package from page 10, the standard wall-to-wall dimension for a Double Size 15 Air Kit is 54" [62" – 8"].
Correct wheel safe speed for maximum temperature.	3	From Chart II, VP/SP = .25/3 = .08. The A dimension for a Double Size 15 Air Kit is 5" or 33 1/3% of the 15" wheel diameter. From Chart III use .1 as the closest VP/SP to .08. 1174 RPM x 1.02 = 1197 RPM 6.06 BHP x 1.10 = 6.67 BHP [standard air 70°F./0.075 lb./ft. ³]
Check wheel safe speed for maximum temperature.	4	Chart VII shows that a Size 15 wheel has a maximum safe speed of 1780 RPM at 70°F. Using temperature correction factor from Chart VI at 700°F. 1780 RPM x .80 = 1424 RPM Maximum safe speed at 700°F...well above the required 1197 RPM.
Select shaft size and check shaft speed at operating temperature.	5	Required speed is 1197 RPM. Chart VII shows that a 15B39-2 Air Kit with 4" wall has a maximum shaft speed of 1555 RPM at 70°F. Using the correction factor from Chart VI at 700°F. 1555 RPM x .92 = 1430 RPM at 700°F., well above the 1197 RPM required.
Determine if coolers are required.	6	Because the application is above 300°F. shaft coolers are required.
Final selection and operating BHP.	7	Standard 15B39-2 Air Kit with shaft-cooler assemblies, BHP at operating temperature of 700°F. is 6.67 ÷ 2.12 [Chart V] = 3.15 BHP.

SIZE 12		Wheel diameter: 12.3" Wheel circumference: 3.21'						Maximum safe speed = 2180 RPM Outlet area: 1.56 sq. ft.																	
		CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	962	449	0.13	603	0.22	740	0.32																		
2000	1282	499	0.24	625	0.34	742	0.45			852	0.58														
2500	1603	563	0.40	668	0.51	768	0.64			864	0.78	1042	1.09	1203	1.43										
3000	1923	637	0.65	726	0.77	813	0.91			896	1.06	1056	1.39	1206	1.77	1346	2.16								
3500	2244	717	0.99	792	1.11	866	1.26			941	1.42	1083	1.78	1221	2.18	1350	2.60								
4000	2564	800	1.44	864	1.57	932	1.73			996	1.89	1125	2.28	1252	2.70	1371	3.15	1472	3.05						
4500	2885	886	2.01	941	2.14	999	2.31			1059	2.49	1174	2.89	1290	3.34	1399	3.81	1505	4.31	1705	4.66				
5000	3205	972	2.72	1022	2.87	1074	3.04			1126	3.23	1233	3.65	1338	4.12	1438	4.60	1536	5.12	1730	6.26				
5500	3526	1060	3.59	1105	3.75	1151	3.92			1199	4.12	1295	4.56	1389	5.03	1485	5.55	1578	6.10	1758	7.29	1904	6.55	1913	7.48
6000	3846	1149	4.63	1189	4.80	1231	4.98			1274	5.18	1362	5.63	1453	6.15	1539	6.68	1625	7.24	1791	8.45	1956	9.78	2091	9.84
6500	4167	1238	5.86	1276	6.04	1313	6.22			1352	6.43	1434	6.90	1515	7.42	1597	7.98	1677	8.56	1836	9.83	1987	11.2	2141	12.6

SIZE 15		Wheel diameter: 15.0" Wheel circumference: 3.93'						Maximum safe speed = 1780 RPM Outlet area: 2.00 sq. ft.																	
		CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2000	1000	368	0.16	484	0.27	587	0.38																		
2600	1300	410	0.28	509	0.40	597	0.53			681	0.67														
3200	1600	458	0.45	545	0.59	623	0.74			697	0.90	832	1.24	959	1.61										
3800	1900	511	0.68	589	0.85	661	1.02			727	1.20	849	1.58	964	1.99	1071	2.41	1173	2.85						
4400	2200	565	0.98	638	1.18	702	1.38			762	1.58	875	2.00	981	2.44	1078	2.89	1175	3.39	1356	4.42				
5000	2500	623	1.37	689	1.60	750	1.83			805	2.06	910	2.52	1006	2.99	1098	3.49	1189	4.02	1359	5.13	1516	6.29		
5600	2800	683	1.86	742	2.12	799	2.38			850	2.63	950	3.14	1038	3.65	1127	4.20	1207	4.74	1369	5.94	1514	7.15		
6200	3100	744	2.46	798	2.75	849	3.03			899	3.31	993	3.88	1079	4.45	1160	5.03	1239	5.63	1385	6.86	1528	8.18	1661	9.53
6800	3400	807	3.18	855	3.50	904	3.82			951	4.13	1037	4.74	1118	5.35	1197	5.98	1269	6.60	1409	7.92	1542	9.29	1675	10.8
7400	3700	869	4.04	914	4.38	959	4.72			1003	5.07	1086	5.74	1164	6.41	1237	7.08	1307	7.75	1441	9.16	1571	10.6	1690	12.1
8000	4000	932	5.04	974	5.41	1015	5.78			1057	6.15	1135	6.88	1209	7.60	1278	8.31	1349	9.08	1475	10.5	1598	12.1	1711	13.6

SIZE 18		Wheel diameter: 18.3" Wheel circumference: 4.77'						Maximum safe speed = 1470 RPM Outlet area: 3.21 sq. ft.																	
		CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	935	283	0.21	388	0.36																				
4000	1246	311	0.38	396	0.55																				
5000	1558	346	0.62	419	0.83	474	0.74	546	0.95	550	1.27	670	1.80												
6000	1869	385	0.96	451	1.21	511	1.46	568	1.72	591	2.29	675	2.29	774	2.90										
7000	2181	427	1.42	487	1.72	540	2.00	591	2.29	621	2.99	729	3.57	866	4.28	866	4.28	947	5.02						
8000	2492	471	2.02	526	2.36	575	2.69	621	3.01	710	3.69	793	4.40	874	5.16	948	5.93	1092	7.62						
9000	2804	515	2.77	566	3.16	613	3.54	656	3.91	736	4.64	814	5.41	888	6.21	958	7.04	1095	8.83			1222	10.7		
10000	3115	561	3.70	609	4.14	651	4.56	692	4.97	769	5.80	839	6.62	909	7.49	975	8.36	1103	10.2	1227	12.3	1344	14.5		
11000	3427	607	4.81	652	5.31	692	5.77	730	6.24	801	7.13	869	8.05	934	8.97	996	9.91	1116	11.9	1229	13.9	1345	16.2		
12000	3738	655	6.15	696	6.68	734	7.20	771	7.72	839	8.72	902	9.70	962	10.7	1021	11.7	1135	13.8	1245	16.0	1346	18.2		
13000	4050	702	7.71	741	8.30	777	8.87	812	9.44	876	10.5	937	11.6	993	12.6	1051	13.7	1156	15.9	1260	18.2	1359	20.6		

SIZE 22		Wheel diameter: 22.3" Wheel circumference: 5.82'						Maximum safe speed = 1205 RPM Outlet area: 5.00 sq. ft.																	
		CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	1000	246	0.42	321	0.67	387	0.96																		
6500	1300	276	0.72	339	1.02	396	1.34			449	1.70	548	2.48												
8000	1600	309	1.15	365	1.51	415	1.89			462	2.28	552	3.16	632	4.07	710	5.10								
9500	1900	345	1.75	397	2.19	442	2.62			484	3.06	563	3.99	638	5.02	710	6.13	775	7.26						
11000	2200	383	2.54	430	3.06	472	3.55			511	4.05	583	5.09	651	6.19	717	7.38	777	8.56	894	11.2				
12500	2500	421	3.55	466	4.15	505	4.73			541	5.29	607	6.42	669	7.60	729	8.85	789	10.2	896	12.9	1003	16.0		
14000	2800	461	4.82	502	5.50	539	6.14			574	6.80	636	8.05	693	9.32	750	10.7	802	12.0	907	15.0	1006	18.2	1097	21.5
15500	3100	501	6.36	540	7.13	575	7.87			607	8.57	666	9.97	721	11.4	773	12.8	825	14.3	920	17.4	1014	20.8	1101	24.2
17000	3400	542	8.21	578	9.07	612	9.90			642	10.70	699	12.2	751	13.8	800	15.3	848	16.9	938	20.1	1026	23.6	1110	27.3
18500	3700	583	10.4	617	11.3	649	12.3			678	13.10	732	14.8	782	16.5	830	18.2	874	19.8	960	23.3	1044	27.0	1123	30.8
20000	4000	624	13.0	657	14.0	687	15.0			715	16.00	768	17.8	816	19.7	859	21.4	903	23.2	984	26.9	1064	30.8	1139	34.7

Performance shown is for Single Air Kits with outlet ducts and without inlet ducts. For Double Air Kits, multiply CFM and BHP by 2. BHP does not include belt losses.

SIZE 24

Wheel diameter: 24.5"
Wheel circumference: 6.40'

Maximum safe speed = 1090 RPM
Outlet area: 6.23 sq. ft.

CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	963	223	0.44	294	0.75	359	1.11																
7800	1252	248	0.74	308	1.09	362	1.50	414	1.92														
9600	1541	276	1.14	330	1.57	377	2.01	421	2.51	507	3.55												
11400	1830	307	1.73	357	2.25	400	2.72	438	3.23	514	4.42	586	5.66										
13200	2119	339	2.53	385	3.03	426	3.66	461	4.19	530	5.47	593	6.82	656	8.25	718	9.77						
15000	2408	373	3.50	414	4.08	452	4.75	487	5.44	550	6.73	609	8.20	667	9.80	722	11.4	830	14.8				
16800	2697	409	4.71	445	5.42	482	6.07	514	6.88	574	8.31	629	9.81	680	11.5	731	13.2	831	16.8				
18600	2987	445	6.21	478	7.08	511	7.71	542	8.48	600	10.3	651	11.8	701	13.5	749	15.4	839	19.2	927	23.2		
20400	3276	481	8.05	512	8.98	543	9.75	572	10.5	627	12.4	678	14.2	724	15.9	767	17.8	852	21.8	937	26.3	1016	30.5
22200	3565	518	10.2	547	11.1	575	12.1	603	12.9	655	14.7	705	17.0	749	18.7	791	20.6	870	24.8	950	29.5	1023	34.1
24000	3854	556	12.8	583	13.7	608	14.9	634	15.7	684	17.5	732	19.9	775	22.1	815	23.9	891	28.2	965	33.0	1038	38.0

SIZE 27

Wheel diameter: 27.0"
Wheel circumference: 7.06'

Maximum safe speed = 990 RPM
Outlet area: 7.60 sq. ft.

CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	921	201	0.52	278	0.94																		
9300	1224	218	0.87	281	1.33	340	1.88																
11600	1526	241	1.38	295	1.92	345	2.51	393	3.17														
13900	1829	266	2.10	316	2.74	359	3.39	402	4.11	479	5.65												
16200	2132	293	3.05	338	3.79	379	4.54	415	5.30	487	6.97	554	8.81	619	10.8								
18500	2434	322	4.29	364	5.14	400	5.97	436	6.86	500	8.63	561	10.6	620	12.6	678	14.9						
20800	2737	351	5.84	390	6.80	425	7.74	457	8.71	517	10.7	573	12.7	629	14.9	681	17.2	784	22.3				
23100	3039	381	7.76	418	8.83	450	9.87	480	10.9	537	13.1	590	15.3	642	17.6	689	20.0	786	25.3	875	30.8		
25400	3342	411	10.1	446	11.2	477	12.4	506	13.6	558	15.9	608	18.2	657	20.7	702	23.2	791	28.6	876	34.4	957	40.6
27700	3645	442	12.9	474	14.1	504	15.4	532	16.6	582	19.1	629	21.7	675	24.3	718	27.0	802	32.6	880	38.5	959	45.0
30000	3947	473	16.1	503	17.4	532	18.8	559	20.2	607	22.9	652	25.7	695	28.4	736	31.3	815	37.1	892	43.4	966	50.0

SIZE 30

Wheel diameter: 30.0"
Wheel circumference: 7.85'

Maximum safe speed = 890 RPM
Outlet area: 9.27 sq. ft.

CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	863	179	0.58	248	1.05																		
11000	1187	193	0.99	252	1.58	305	2.21	350	2.87														
14000	1510	212	1.61	264	2.32	310	3.06	353	3.84	430	5.54												
17000	1834	237	2.50	281	3.33	323	4.21	362	5.11	433	6.99	496	8.97										
20000	2157	265	3.75	302	4.66	339	5.65	374	6.68	440	8.80	500	11.0	555	13.3	609	15.8						
23000	2481	295	5.45	326	6.38	359	7.48	391	8.63	452	11.0	507	13.4	560	16.0	609	18.6	704	24.3				
26000	2805	327	7.64	353	8.58	382	9.76	411	11.0	467	13.7	520	16.4	568	19.1	617	22.1	704	27.9	784	34.2		
29000	3128	360	10.4	381	11.3	406	12.5	433	13.9	484	16.8	534	19.8	581	22.8	624	25.8	707	32.1	785	38.8	858	45.7
32000	3452	393	13.7	412	14.7	433	15.9	457	17.4	504	20.4	549	23.6	594	27.0	636	30.3	716	37.1	790	44.1	863	51.8
35000	3776	426	17.8	443	18.8	462	20.1	482	21.5	526	24.7	569	28.2	611	31.8	651	35.4	726	42.6	798	50.2	865	57.8
38000	4099	460	22.6	476	23.7	492	24.9	510	26.4	549	29.7	590	33.5	629	37.2	666	41.0	740	49.0	808	56.9	873	65.1

SIZE 33

Wheel diameter: 33.0"
Wheel circumference: 8.63'

Maximum safe speed = 810 RPM
Outlet area: 11.3 sq. ft.

CFM	OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	885	159	0.68	220	1.33																		
13500	1195	169	1.11	224	1.81	270	2.66	312	3.63														
17000	1504	185	1.81	232	2.56	274	3.44	313	4.47	382	6.81												
20500	1814	205	2.83	245	3.63	283	4.58	319	5.65	383	8.08	441	10.9										
24000	2124	229	4.27	261	5.09	295	6.10	328	7.21	389	9.79	442	12.6	494	15.9	540	19.3						
27500	2434	256	6.20	281	7.01	310	8.07	339	9.21	397	11.9	447	14.8	496	18.1	541	21.6	623	29.4				
31000	2743	284	8.69	304	9.51	328	10.6	354	11.8	406	14.5	455	17.6	502	21.0	543	24.5	624	32.5	697	41.3		
34500	3053	312	11.8	329	12.6	349	13.7	372	14.9	419	17.8	465	21.0	510	24.5	550	28.1	627	36.4	698	45.4	765	55.4
38000	3363	341	15.6	356	16.5	372	17.5	392	18.8	434	21.7	477	25.0	519	28.6	558	32.4	631	40.6	701	50.0	764	59.8
41500	3673	370	20.1	383	21.0	397	22.1	414	23.4	451	26.3	491	29.7	529	33.4	568	37.4	639	45.9	706	55.4	766	65.3
45000	3982	399	25.4	411	26.5	423	27.6	437	28.8	471	31.8	507	35.3	543	39.1	579	43.1	648	51.9	710	61.3	772	71.9

Performance shown is for Single Air Kits with outlet ducts and without inlet ducts. For Double Air Kits, multiply CFM and BHP by 2. BHP does not include belt losses.

CFM		OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP			
			RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
			SIZE 36 Wheel diameter: 36.5" Wheel circumference: 9.55' Maximum safe speed = 735 RPM Outlet area: 13.9 sq. ft.																							
12000	866	141	0.81	199	1.53	242	3.04	279	5.09	342	9.19	395	14.4	441	20.6	483	24.7	559	41.4	625	52.0	684	68.6			
16200	1169	150	1.34	199	2.11	244	4.06			345	11.5	398	17.4	445	24.7	484	28.1	559	41.4	625	52.0	684	68.6			
20400	1472	166	2.19	206	3.07					342	9.19	395	14.4	445	24.7	484	28.1	559	41.4	625	52.0	684	68.6			
24600	1775	184	3.44	218	4.38	252	5.52	283	6.71	342	9.19	395	14.4	445	24.7	484	28.1	559	41.4	625	52.0	684	68.6			
28800	2077	206	5.18	234	6.16	263	7.33	291	8.65	345	11.5	398	17.4	445	24.7	484	28.1	559	41.4	625	52.0	684	68.6			
33000	2380	230	7.50	253	8.53	277	9.76	302	11.1	352	14.3	398	17.4	445	24.7	484	28.1	559	41.4	625	52.0	684	68.6			
37200	2683	255	10.5	273	11.5	295	12.8	317	14.3	361	17.4	405	21.1	445	24.7	484	28.1	559	41.4	625	52.0	684	68.6			
41400	2986	281	14.2	296	15.3	314	16.6	333	18.1	374	21.4	414	25.2	453	29.4	489	33.3	559	41.4	625	52.0	684	68.6			
45600	3289	307	18.8	319	19.9	334	21.2	352	22.8	388	26.3	424	29.9	461	34.4	496	38.8	563	47.6	625	56.9	684	68.6			
49800	3592	333	24.2	344	25.4	357	26.8	372	28.3	405	31.9	438	35.9	471	40.1	505	45.0	568	54.9	627	64.0	684	68.6			
54000	3895	359	30.6	369	31.9	380	33.3	393	34.9	423	38.5	453	42.6	484	47.0	515	51.8	576	62.4	632	73.0	687	74.4	82.8		

CFM		OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP			
			RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
			SIZE 40 Wheel diameter: 40.3" Wheel circumference: 10.5' Maximum safe speed = 665 RPM Outlet area: 16.9 sq. ft.																							
14000	831	125	0.90	177	2.40	217	3.62	250	6.02	306	10.9	354	17.1	397	28.3	432	32.8	499	48.7	558	67.4	612	81.8			
19000	1128	132	1.49	183	3.48	217	4.59			307	13.1	354	17.1	397	28.3	432	32.8	499	48.7	558	67.4	612	81.8			
24000	1424	144	2.39	183	3.48	217	4.59			306	10.9	354	17.1	397	28.3	432	32.8	499	48.7	558	67.4	612	81.8			
29000	1721	159	3.72	191	4.85	223	6.25	251	7.62	307	13.1	354	17.1	397	28.3	432	32.8	499	48.7	558	67.4	612	81.8			
34000	2018	177	5.56	204	6.78	231	8.19	258	9.87	307	13.1	354	17.1	397	28.3	432	32.8	499	48.7	558	67.4	612	81.8			
39000	2315	197	8.04	218	9.28	242	10.8	266	12.5	312	16.3	355	19.9	394	24.2	432	32.8	499	48.7	558	67.4	612	81.8			
44000	2611	218	11.2	235	12.5	256	14.1	277	15.8	320	19.9	359	24.2	397	28.3	432	32.8	499	48.7	558	67.4	612	81.8			
49000	2908	239	15.2	254	16.5	271	18.1	290	20.0	328	24.0	366	28.7	401	33.6	434	38.0	499	48.7	558	67.4	612	81.8			
54000	3205	261	20.1	273	21.5	288	23.1	306	25.0	340	29.3	374	33.9	408	39.3	439	44.5	500	54.5	558	67.4	612	81.8			
59000	3501	283	25.9	294	27.4	307	29.1	321	31.0	353	35.4	384	40.1	416	45.6	446	51.3	505	62.9	559	73.9	612	88.6			
64000	3798	305	32.8	315	34.4	326	36.1	339	38.0	367	42.5	397	47.7	426	52.9	454	58.8	511	71.8	561	83.3	613	96.3			

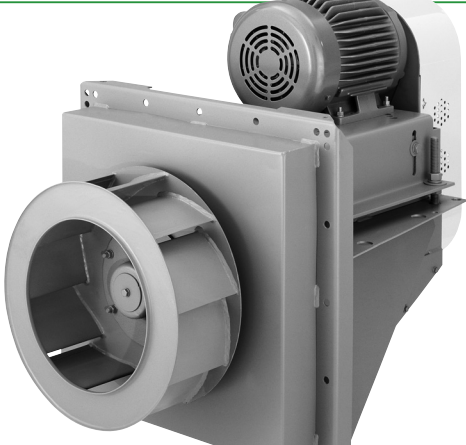
CFM		OV	1/4"SP		1/2"SP		3/4"SP		1"SP		1 1/2"SP		2"SP		2 1/2"SP		3"SP		4"SP		5"SP		6"SP			
			RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
			SIZE 44 Wheel diameter: 44.5" Wheel circumference: 11.6' Maximum safe speed = 600 RPM Outlet area: 20.6 sq. ft.																							
16000	777	113	1.00	160	2.86	196	4.33	226	7.39	277	13.6	320	21.6	367	45.4	396	51.5	452	63.6	505	79.7	554	106			
22800	1107	119	1.76	160	2.86	196	4.33			277	13.6	320	21.6	367	45.4	396	51.5	452	63.6	505	79.7	554	106			
29600	1438	131	2.98	165	4.31	197	5.71			277	13.6	320	21.6	367	45.4	396	51.5	452	63.6	505	79.7	554	106			
36400	1768	146	4.85	174	6.25	203	7.98	228	9.74	277	13.6	320	21.6	367	45.4	396	51.5	452	63.6	505	79.7	554	106			
43200	2098	164	7.53	187	9.02	211	10.8	235	12.8	279	17.0	320	21.6	367	45.4	396	51.5	452	63.6	505	79.7	554	106			
50000	2428	185	11.2	203	12.8	224	14.6	245	16.7	285	21.5	321	26.2	357	31.2	391	37.5	451	56.9	505	79.7	554	106			
56800	2759	206	16.0	221	17.6	238	19.6	256	21.8	292	26.7	328	32.3	360	37.6	391	42.9	451	56.9	505	79.7	554	106			
63600	3089	228	22.1	240	23.7	255	25.8	270	28.0	303	33.1	335	38.9	367	45.4	396	51.5	452	63.6	505	79.7	554	106			
70400	3419	250	29.5	261	31.3	272	33.3	286	35.6	315	41.0	345	46.7	374	53.4	403	60.6	454	73.6	506	88.1	554	116			
77200	3750	273	38.5	282	40.5	292	42.5	304	44.9	330	50.4	356	56.6	383	63.0	410	70.5	461	85.9	507	99.6	554	116			
84000	4080	295	49.3	304	51.4	312	53.5	322	55.9	346	61.5	370	67.8	394	74.6	419	81.6	468	98.3	513	115	555	130			

Performance shown is for Single Air Kits with outlet ducts and without inlet ducts. For Double Air Kits, multiply CFM and BHP by 2. BHP does not include belt losses.

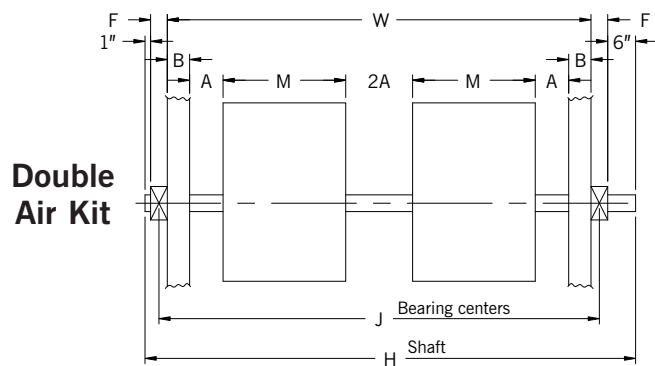
PLUG FANS

Capacities to 74,000 CFM, 20"WG.

For alternate system designs, New York Blower offers an extensive line of space-saving Plug Fans featuring high-efficiency backwardly inclined wheels for a wide variety of OEM applications... static pressures to 20"WG...temperatures to 1300°F...12" to 49" wheel diameters.

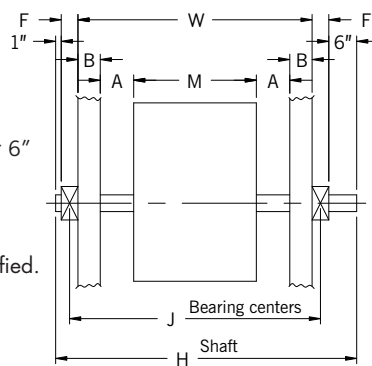


STANDARD AIR KITS



Double Air Kit

Dimensions in inches.
 B = wall thickness = 4" or 6"
 See page 15 for detail on F dimensions.
 Dimensions not to be used for construction unless certified.



Single Air Kit

CHART VII

	Size	A	F†	M	W		H		J		Shaft diameter		Keyways	Bearings	Shaft safe RPM ‡		Wheel safe RPM ‡	
					4" wall	6" wall	4" wall	6" wall	4" wall	6" wall	Wheel	Bearings			4" wall	6" wall		
SINGLE AIR KITS	12B23-1	4 1/4	2 1/2	15	31 1/2	35 1/2	43 1/2	47 1/2	34	38	1 7/16	1 7/16	3/8 x 3/16	SPM	*	*	2180	
	15B23-1	5	2 1/2	17	35	39	47	51	37 1/2	41 1/2	1 7/16	1 7/16	3/8 x 3/16	SPM	*	*	1780	
	18B27-1	6 1/4	2 1/2	21 1/2	42	46	54	58	44 1/2	48 1/2	1 11/16	1 11/16	3/8 x 3/16	SPM	*	*	1470	
	22B35-1	7 3/4	3	28 1/2	52	56	65	69	55	59	2 3/16	2 3/16	1/2 x 1/4	SPM	*	*	1205	
	24B43-1	8 1/4	3	36	60 1/2	64 1/2	73 1/2	77 1/2	63 1/2	67 1/2	2 11/16	2 3/16	1/2 x 1/4	SPM	*	*	1090	
	27B47-1	9	3	39 3/4	65 3/4	69 3/4	78 3/4	82 3/4	68 3/4	72 3/4	2 15/16	2 3/16	1/2 x 1/4	SPM	*	*	990	
	30B47-1	10	3	44	72	76	85	89	75	79	2 15/16	2 3/16	1/2 x 1/4	SPM	*	*	890	
	33B55-1	11	3	48 3/8	78 3/8	82 3/8	91 3/8	95 3/8	81 3/8	85 3/8	3 7/16	2 7/16	5/8 x 5/16	SPM	*	*	810	
	36B63-1	12	4	53 1/2	85 1/2	89 1/2	100 1/2	104 1/2	89 1/2	93 1/2	3 15/16	2 11/16	5/8 x 5/16	MPD	*	*	735	
	40B63-1	13	4	59	93	97	108	112	97	101	3 15/16	2 11/16	5/8 x 5/16	MPD	*	*	665	
	44B71-1	14	4	65 1/4	101 1/4	105 1/4	116 1/4	120 1/4	105 1/4	109 1/4	4 7/16	2 11/16	5/8 x 5/16	MPD	*	*	600	
	DOUBLE AIR KITS	12B27-2	4 1/4	2 1/2	15	55	59	67	71	57 1/2	61 1/2	1 11/16	1 11/16	3/8 x 3/16	SPM	1210	1070	2180
		12B35-2	4 1/4	3	15	55	59	68	72	58	62	2 3/16	2 3/16	1/2 x 1/4	SPM	1670	1480	2180
		12B43-2	4 1/4	4	15	55	59	70	74	59	63	2 11/16	2 11/16	5/8 x 5/16	MPD	2260	2000	2180
15B31-2		5	2 1/2	17	62	66	74	78	64 1/2	68 1/2	1 15/16	1 15/16	1/2 x 1/4	SPM	1140	1025	1780	
15B39-2		5	3	17	62	66	75	79	65	69	2 7/16	2 7/16	5/8 x 5/16	SPM	1555	1390	1780	
15B47-2		5	3	17	62	66	75	79	65	69	2 15/16	2 3/16	1/2 x 1/4	SPM	*	*	1780	
18B35-2		6 1/4	3	21 1/2	76	80	89	93	79	83	2 3/16	2 3/16	1/2 x 1/4	SPM	810	740	1470	
18B43-2		6 1/4	4	21 1/2	76	80	91	95	80	84	2 11/16	2 11/16	5/8 x 5/16	MPD	1110	1010	1470	
18B55-2		6 1/4	3	21 1/2	76	80	89	93	79	83	3 7/16	2 7/16	5/8 x 5/16	SPM	1575	1435	1470	
22B43-2		7 3/4	4	28 1/2	96	100	111	115	100	104	2 11/16	2 11/16	5/8 x 5/16	MPD	660	615	1205	
22B47-2		7 3/4	3	28 1/2	96	100	109	113	99	103	2 15/16	2 3/16	1/2 x 1/4	SPM	675	625	1205	
22B55-2		7 3/4	3	28 1/2	96	100	109	113	99	103	3 7/16	2 7/16	5/8 x 5/16	SPM	990	920	1205	
22B63-2		7 3/4	4	28 1/2	96	100	111	115	100	104	3 15/16	2 11/16	5/8 x 5/16	MPD	1190	1100	1205	
24B47-2		8 1/4	3	36	113	117	126	130	116	120	2 15/16	2 3/16	1/2 x 1/4	SPM	520	490	1090	
24B55-2		8 1/4	3	36	113	117	126	130	116	120	3 7/16	2 7/16	5/8 x 5/16	SPM	670	630	1090	
24B63-2		8 1/4	4	36	113	117	128	132	117	121	3 15/16	2 11/16	5/8 x 5/16	MPD	815	765	1090	
24B71-2		8 1/4	4	36	113	117	128	132	117	121	4 7/16	2 11/16	5/8 x 5/16	MPD	970	910	1090	
24B79-2		8 1/4	4 1/2	36	113	117	129	133	117 1/2	121 1/2	4 15/16	2 15/16	3/4 x 3/8	MPD	1100	1030	1090	
27B47-2		9	3	39 3/4	123 1/2	127 1/2	136 1/2	140 1/2	126 1/2	130 1/2	2 15/16	2 3/16	1/2 x 1/4	SPM	420	395	990	
27B55-2		9	3	39 3/4	123 1/2	127 1/2	136 1/2	140 1/2	126 1/2	130 1/2	3 7/16	2 7/16	5/8 x 5/16	SPM	540	510	990	
27B63-2		9	4	39 3/4	123 1/2	127 1/2	138 1/2	142 1/2	127 1/2	131 1/2	3 15/16	2 11/16	5/8 x 5/16	MPD	660	625	990	
27B71-2		9	4	39 3/4	123 1/2	127 1/2	138 1/2	142 1/2	127 1/2	131 1/2	4 7/16	2 11/16	5/8 x 5/16	MPD	790	745	990	
27B79-2		9	4 1/2	39 3/4	123 1/2	127 1/2	139 1/2	143 1/2	128	132	4 15/16	2 15/16	3/4 x 3/8	MPD	905	855	990	
27B87-2		9	4 1/2	39 3/4	123 1/2	127 1/2	139 1/2	143 1/2	128	132	5 7/16	2 15/16	3/4 x 3/8	MPD	1035	975	990	
30B55-2		10	3	44	136	140	149	153	139	143	3 7/16	2 7/16	5/8 x 5/16	SPM	425	400	890	
30B63-2		10	4	44	136	140	151	155	140	144	3 15/16	2 11/16	5/8 x 5/16	MPD	520	495	890	
30B71-2		10	4	44	136	140	151	155	140	144	4 7/16	2 11/16	5/8 x 5/16	MPD	625	595	890	
30B79-2		10	4 1/2	44	136	140	152	156	140 1/2	144 1/2	4 15/16	2 15/16	3/4 x 3/8	MPD	720	685	890	
30B87-2		10	4 1/2	44	136	140	152	156	140 1/2	144 1/2	5 7/16	2 15/16	3/4 x 3/8	MPD	820	785	890	
33B63-2		11	4	48 3/8	148 3/4	152 3/4	163 3/4	167 3/4	152 3/4	156 3/4	3 15/16	2 11/16	5/8 x 5/16	MPD	430	410	810	
33B71-2		11	4	48 3/8	148 3/4	152 3/4	163 3/4	167 3/4	152 3/4	156 3/4	4 7/16	2 11/16	5/8 x 5/16	MPD	520	495	810	
33B79-2		11	4 1/2	48 3/8	148 3/4	152 3/4	164 3/4	168 3/4	153 1/4	157 1/4	4 15/16	2 15/16	3/4 x 3/8	MPD	600	575	810	
33B87-2	11	4 1/2	48 3/8	148 3/4	152 3/4	164 3/4	168 3/4	153 1/4	157 1/4	5 7/16	2 15/16	3/4 x 3/8	MPD	690	655	810		

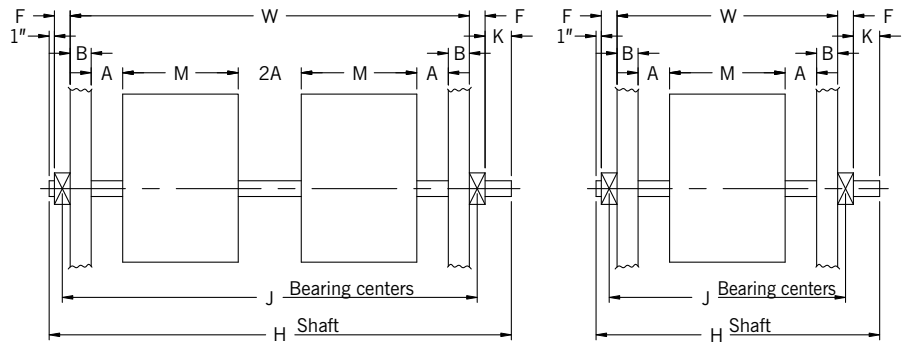
† F dimensions shown in detail on page 15. * Safe speed of shaft exceeds safe speed of wheel. ‡ Safe speeds are given at 70°F. See Chart VI, page 5, for temperature correction.

NON-STANDARD AIR KITS

When the system plenum cannot be designed to accommodate pre-designed, standard Air Kits [from Chart VII], Air Kits with non-standard shaft sizes and wheel bores may be selected using the shaft safe speed curves on pages 11 to 14.

The curves show maximum shaft safe speeds at 70°F. for all possible bearing-center distances and Air Kit combinations. Final selections must be corrected for operating temperature.

Curves are based on proper spacing of fans between walls [A on each side and 2A between fans]. Curves cannot be extended to obtain selections not shown.



Double Air Kit

Single Air Kit

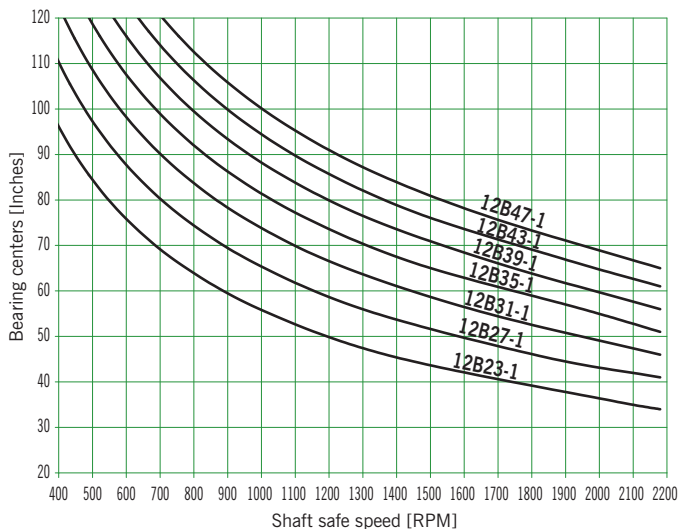
See page 4 for A dimension criteria.

See page 15 for F, K, and M dimension criteria.

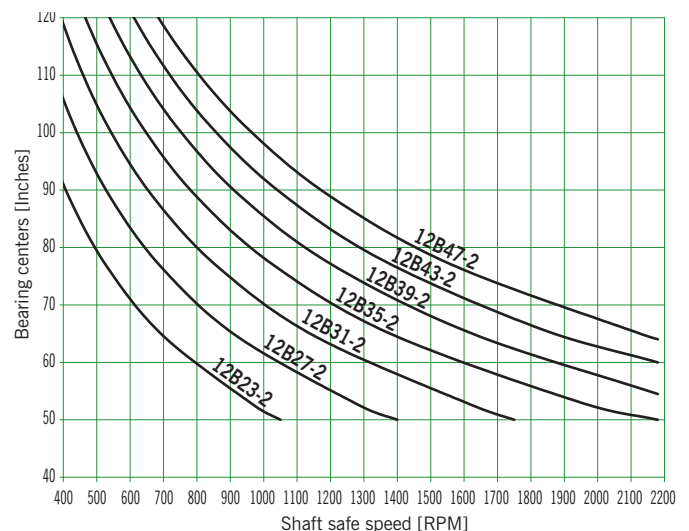
HOW TO SELECT A NON-STANDARD AIR KIT

PROCEDURES	STEPS	EXAMPLE
Summary.	1-4	Air Kit size and model have been selected from the example on page 6. Plenum effect has been calculated and speed and BHP determined. Wheel safe speed at 700°F had been checked.
Calculate bearing-center distance.	5	Inside wall-to-wall distance is 54". Wall thickness is 4" for a total W of 62". Use F dimension from Chart VII for Double Air Kit with closest W dimension. F = 3". Bearing centers for using curves is 65".
Select shaft size and check shaft safe speed at operating temperature.	6	Using the X15B-2 graph, draw a horizontal line from 65" and a vertical line from 1197 RPM. Correct selection is the curve that is above the intersection point ...15B35-2 with a maximum safe speed of 1310 at 70°F. [continue the horizontal line], 1310 x .92 [Chart VI @700°F.] = 1205 RPM.
Final selection.	7	An X15B35-2 Air Kit with cooler wheels.

X12B-1 SINGLE AIR KIT

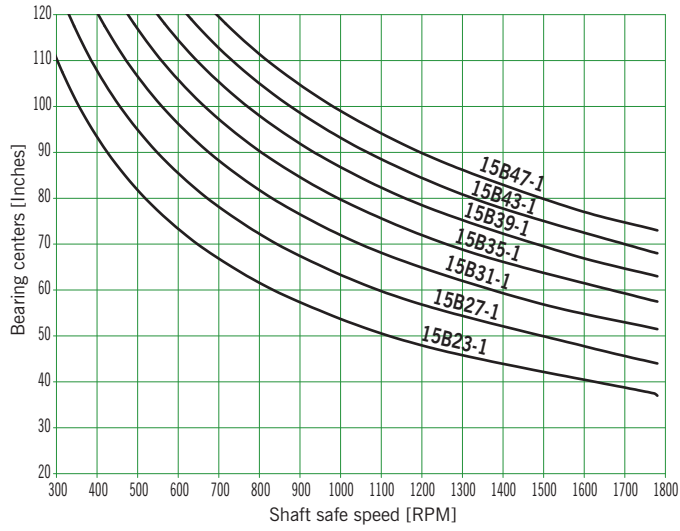


X12B-2 DOUBLE AIR KIT

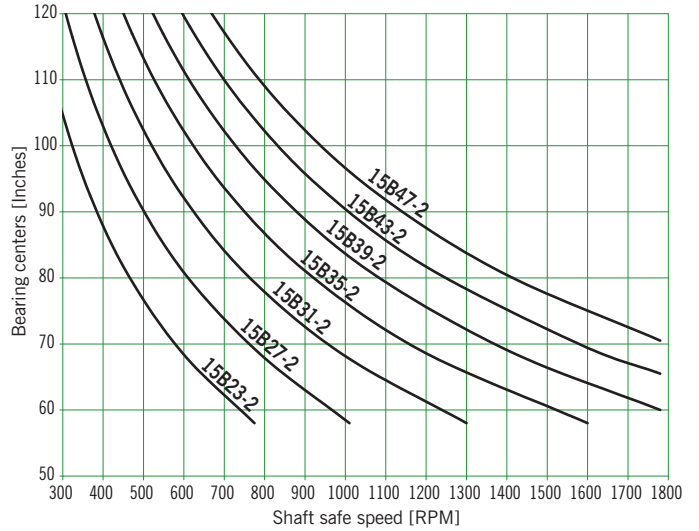


NON-STANDARD AIR KITS

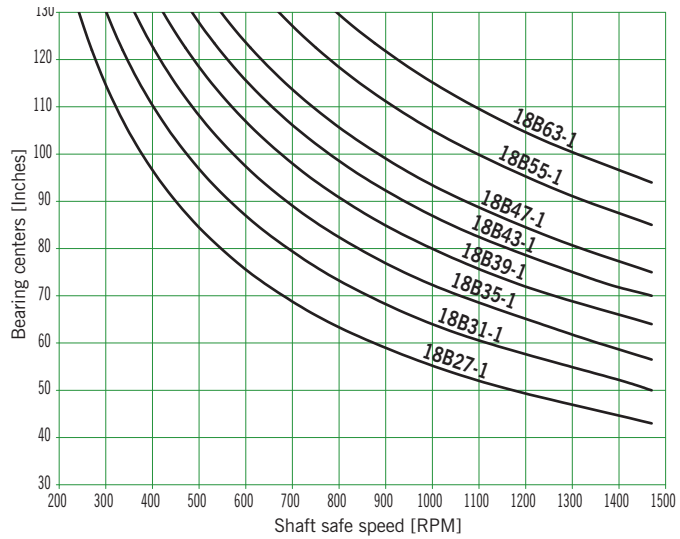
X15B-1 SINGLE AIR KIT



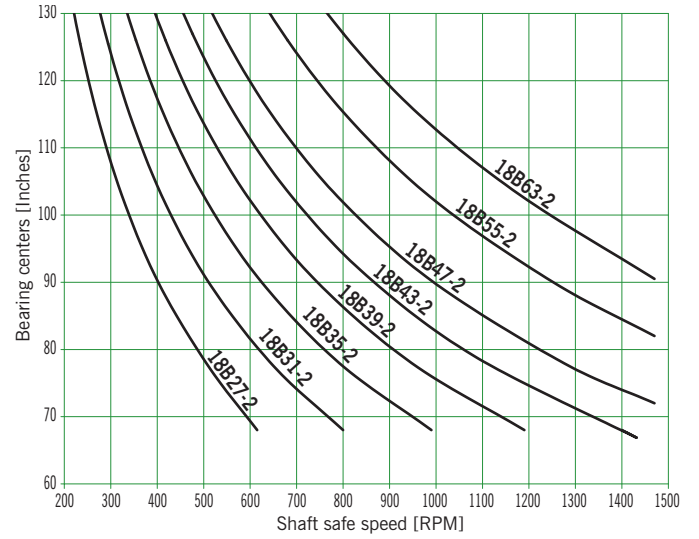
X15B-2 DOUBLE AIR KIT



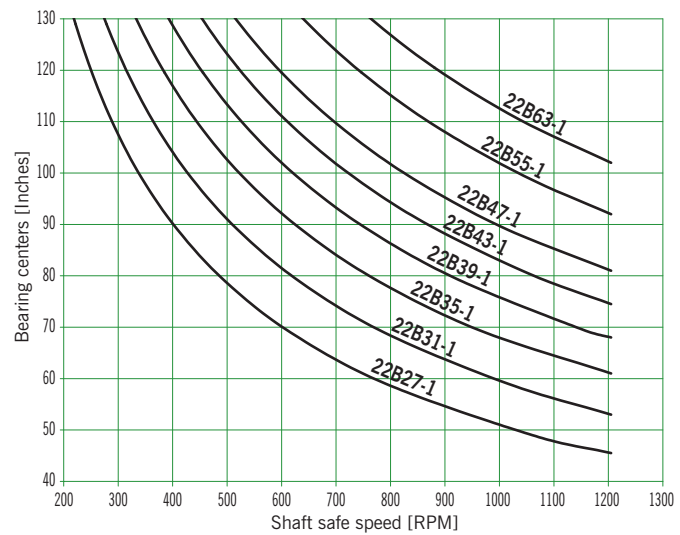
X18B-1 SINGLE AIR KIT



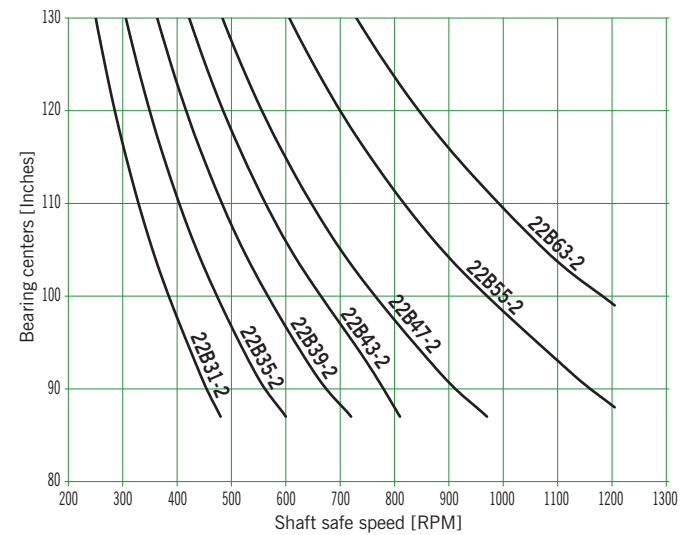
X18B-2 DOUBLE AIR KIT



X22B-1 SINGLE AIR KIT

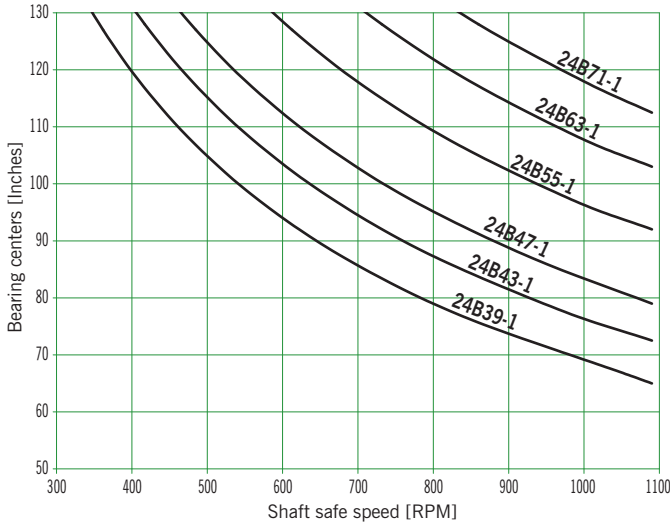


X22B-2 DOUBLE AIR KIT

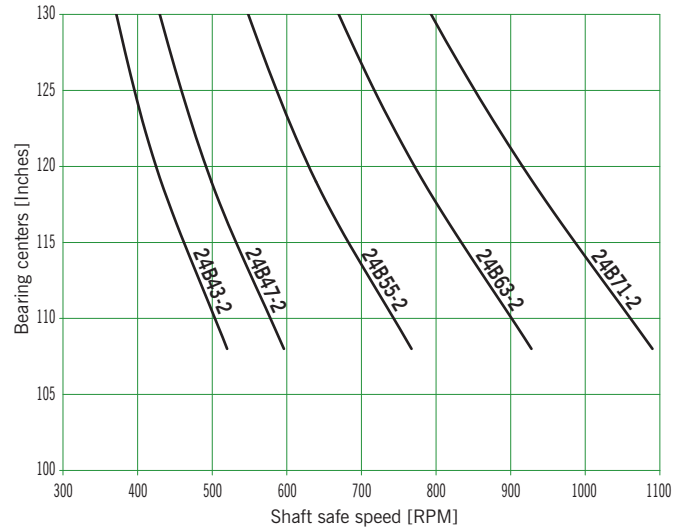


NON-STANDARD AIR KITS

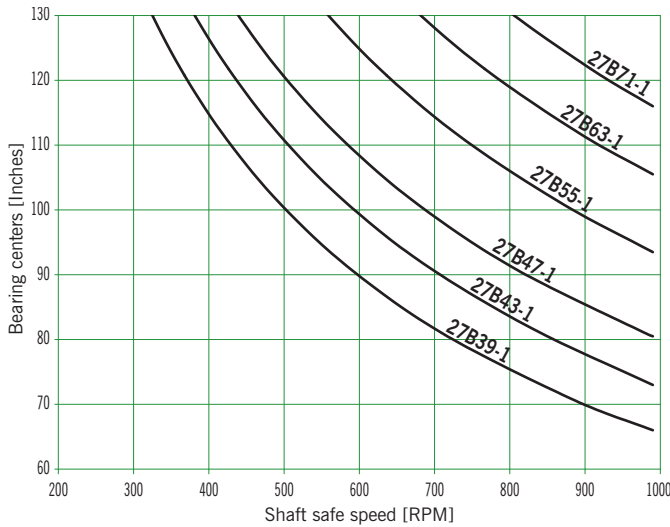
X24B-1 SINGLE AIR KIT



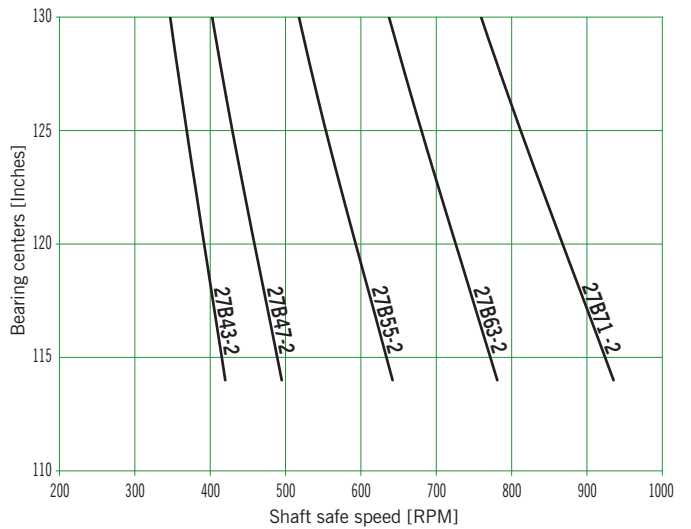
X24B-2 DOUBLE AIR KIT



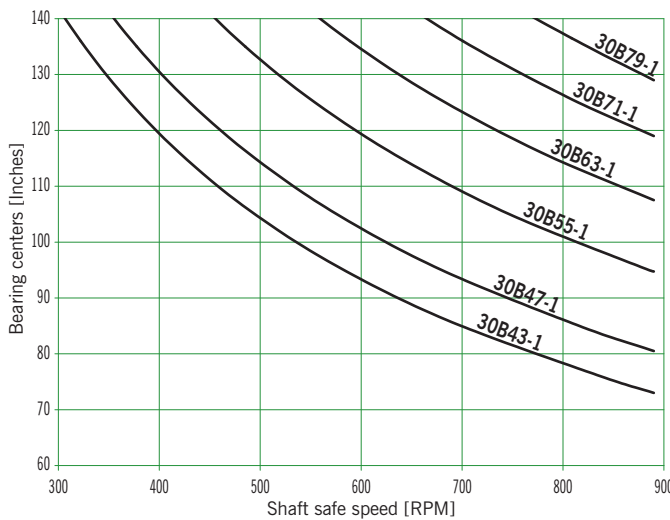
X27B-1 SINGLE AIR KIT



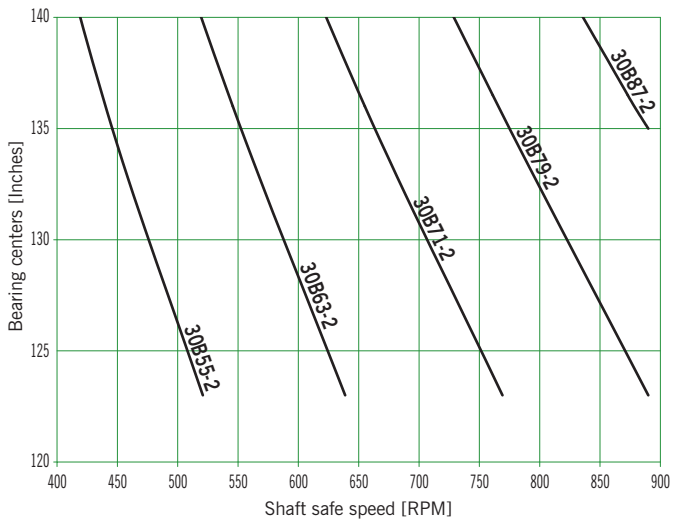
X27B-2 DOUBLE AIR KIT



X30B-1 SINGLE AIR KIT

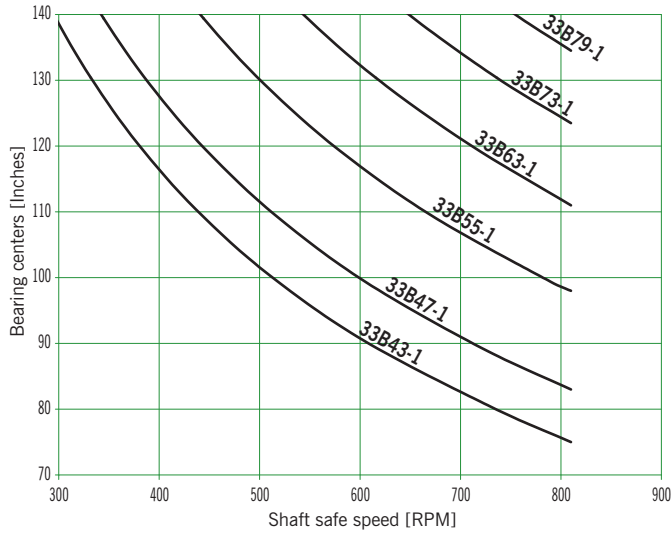


X30B-2 DOUBLE AIR KIT

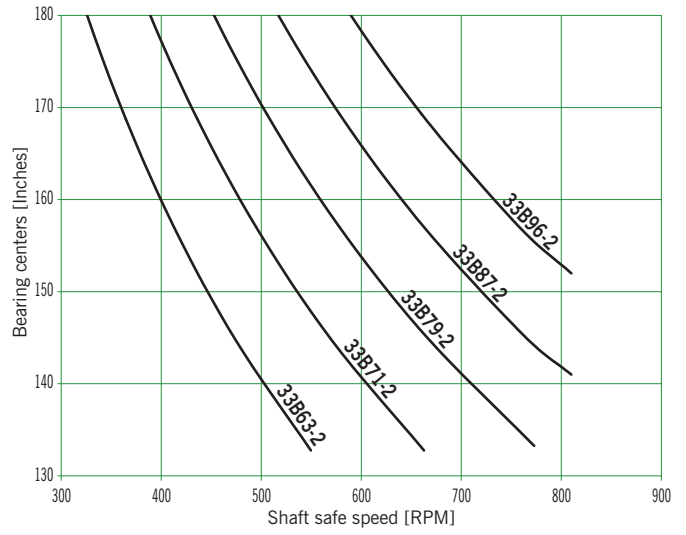


NON-STANDARD AIR KITS

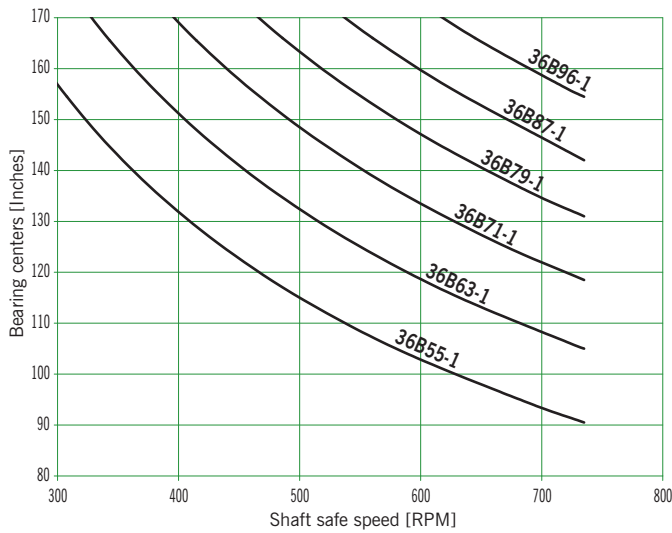
X33B-1 SINGLE AIR KIT



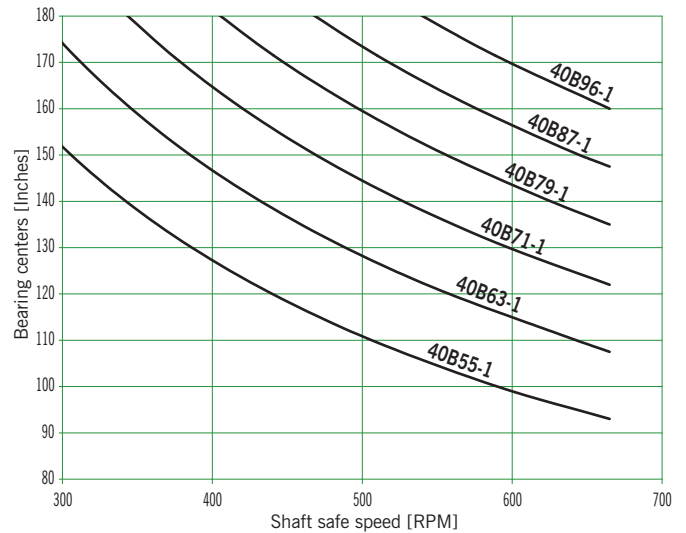
X33B-2 DOUBLE AIR KIT



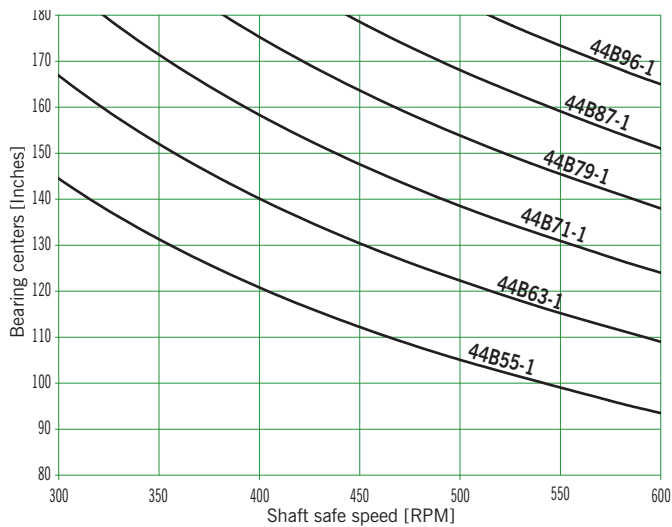
X36B-1 SINGLE AIR KIT



X40B-1 SINGLE AIR KIT



X44B-1 SINGLE AIR KIT

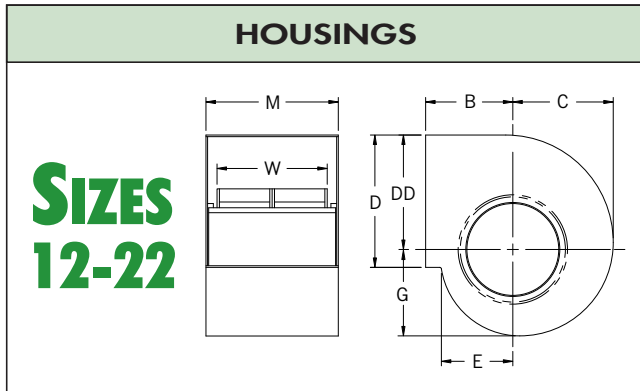


SPECIFICATIONS

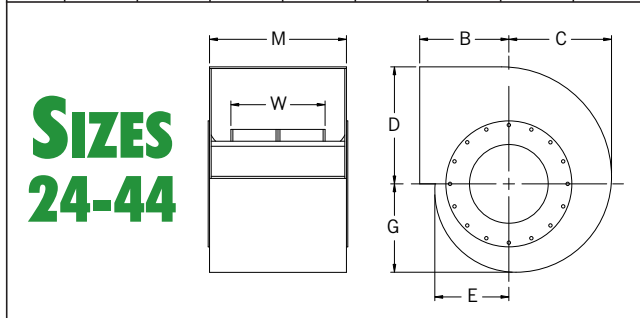
STANDARD SHEET GAUGE, WHEEL WEIGHTS [RPM]

Size	Housing		Wheel				Inlet cone
	Side	Scroll	Back plate	Front plate	Blades	Weight	
12	16	16	14	14	18	24	—
15	14	14	14	14	18	29	—
18	14	14	12	14	18	50	—
22	14	14	12	14	18	100	—
24	11	12	10	12	16	151	16
27	11	12	10	10	16	185	16
30	11	12	7	10	16	235	14
33	10	12	7	10	16	268	14
36	10	10	7	10	12	565	14
40	10	10	7	10	12	652	14
44	10	10	1/4	7	12	816	14

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

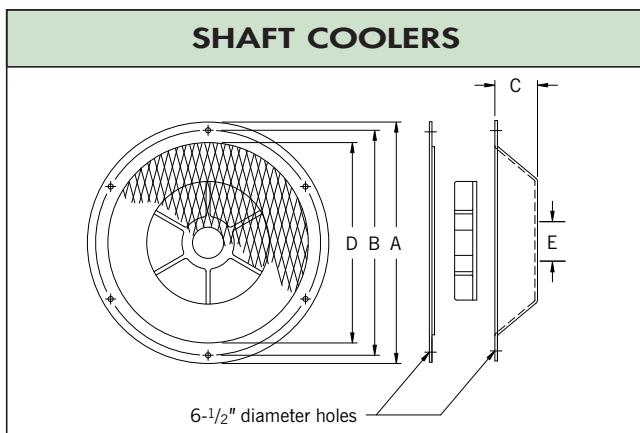


Size	B	C	D	DD	E	G	M	W
12	11 1/2	10 1/8	15	12 1/2	7 1/4	8 7/8	15	12 1/4
15	13 1/2	12 7/8	17	15 1/8	9 1/4	11 1/8	17	15
18	14	16 1/4	21 1/2	18 1/2	11 1/2	13 7/8	21 1/2	18 1/4
22	18 1/2	19 5/8	25 1/4	22 1/2	14 1/8	16 7/8	28 1/2	24 1/2



Size	B	C	D	E	G	M	W	Stud circle
24	18 3/4	21 3/4	25	15 1/2	18 5/8	36	26 7/8	29 1/8
27	20 3/4	24	27 1/2	17 1/4	20 5/8	39 3/4	29 5/8	31 3/4
30	23	26 5/8	30 1/2	19 1/8	22 7/8	44	33	35 1/8
33	25 1/2	29 1/2	33 3/4	21 1/4	25 3/8	48 3/8	36 1/4	38 3/8
36	28 1/4	32 5/8	37 3/8	23 5/8	28 1/8	53 1/2	39 7/8	42 3/8
40	31 1/8	36	41 1/8	26	31	59	43 7/8	46 1/8
44	34 3/8	39 3/4	45 1/2	28 3/4	34 1/4	65 1/4	48 5/8	51 1/8

Tolerance: ± 1/8"

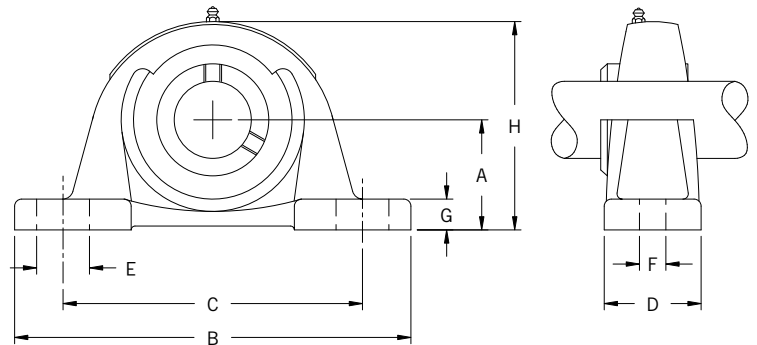


Bore*	A	B	C	D	E
1 - 2 3/16	14	12 3/4	2 1/4	11	2 3/4
27/16 - 2 15/16	18 3/8	17 1/8	3 1/8	15 1/4	3 3/4
37/16 - 3 15/16	23 1/8	21 7/8	3 1/2	20	4 1/2
47/16 - 5 7/16	25 5/8	24 3/8	3 3/4	22 1/2	5 1/2

* Shaft-cooler bore should be same as wheel bore.

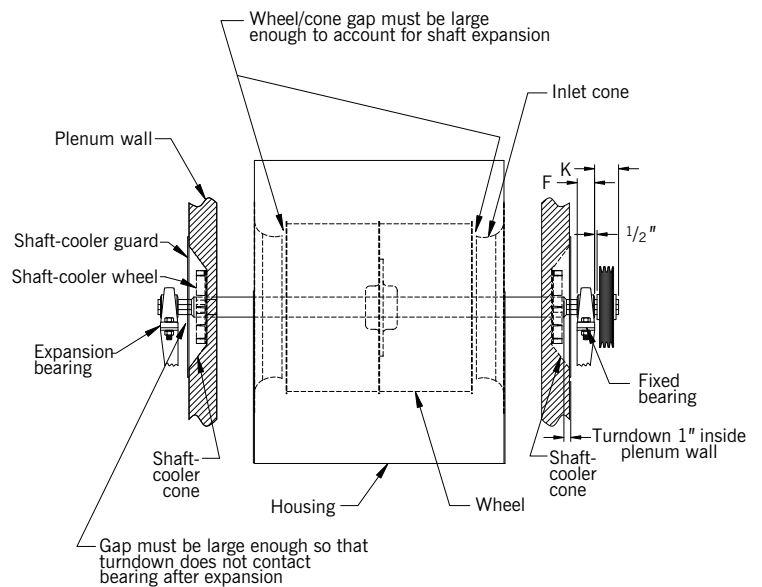
Tolerance: ± 1/8"

BEARINGS



Shaft size	Bearing type	A	B	C	D	E	F	G	H
17/16	SPM	2 3/8	8 1/4	6 1/4	2 1/4	1 1/4	3/4	3/4	4 1/2
1 11/16	SPM	2 3/8	8 3/4	6 1/2	2 3/8	1 1/4	3/4	3/4	4 5/8
2 3/16	SPM	3 1/8	11 1/4	8 1/2	2 3/4	1 1/2	3/4	7/8	5 15/16
2 7/16	SPM	3 1/8	11 1/2	8 5/8	3	1 1/2	7/8	7/8	6 1/16
2 11/16	MPD	3 1/2	13	9	3 1/2	2	15/16	1 1/8	7
2 15/16	MPD	3 1/2	13	9	3 1/2	2	15/16	1 1/4	7 1/4

TYPICAL BEARING MOUNTING DETAIL



Optional preselected bearings are available with **nyb** Air Kits. However, it is recognized that some customers may have bearing specifications other than available through **nyb**. The detail shown here provides dimension information and a suitable method of construction.

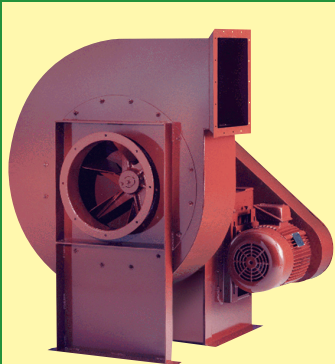
The F dimensions for Standard Air Kits are given in Chart VII, page 10.

F = Nominal width of bearing bar.

K = Shaft extension for drive is based on placing sheave as close to bearing bar as possible. Speeds in Chart VII and on curves pages 11-14 are based on 1/2" maximum.

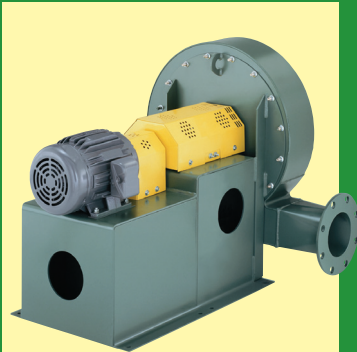
COMPLETE SELECTION OF AIR-MOVING EQUIPMENT

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.



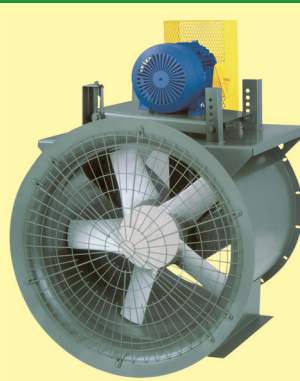
DUST/MATERIAL HANDLING

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.

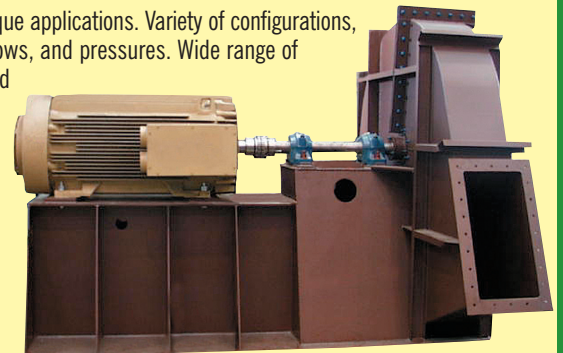


FIBERGLASS REINFORCED PLASTIC [FRP]

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



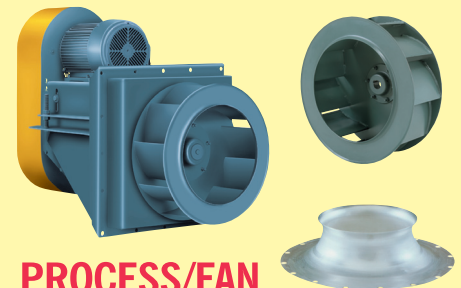
ROOF VENTILATORS

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.