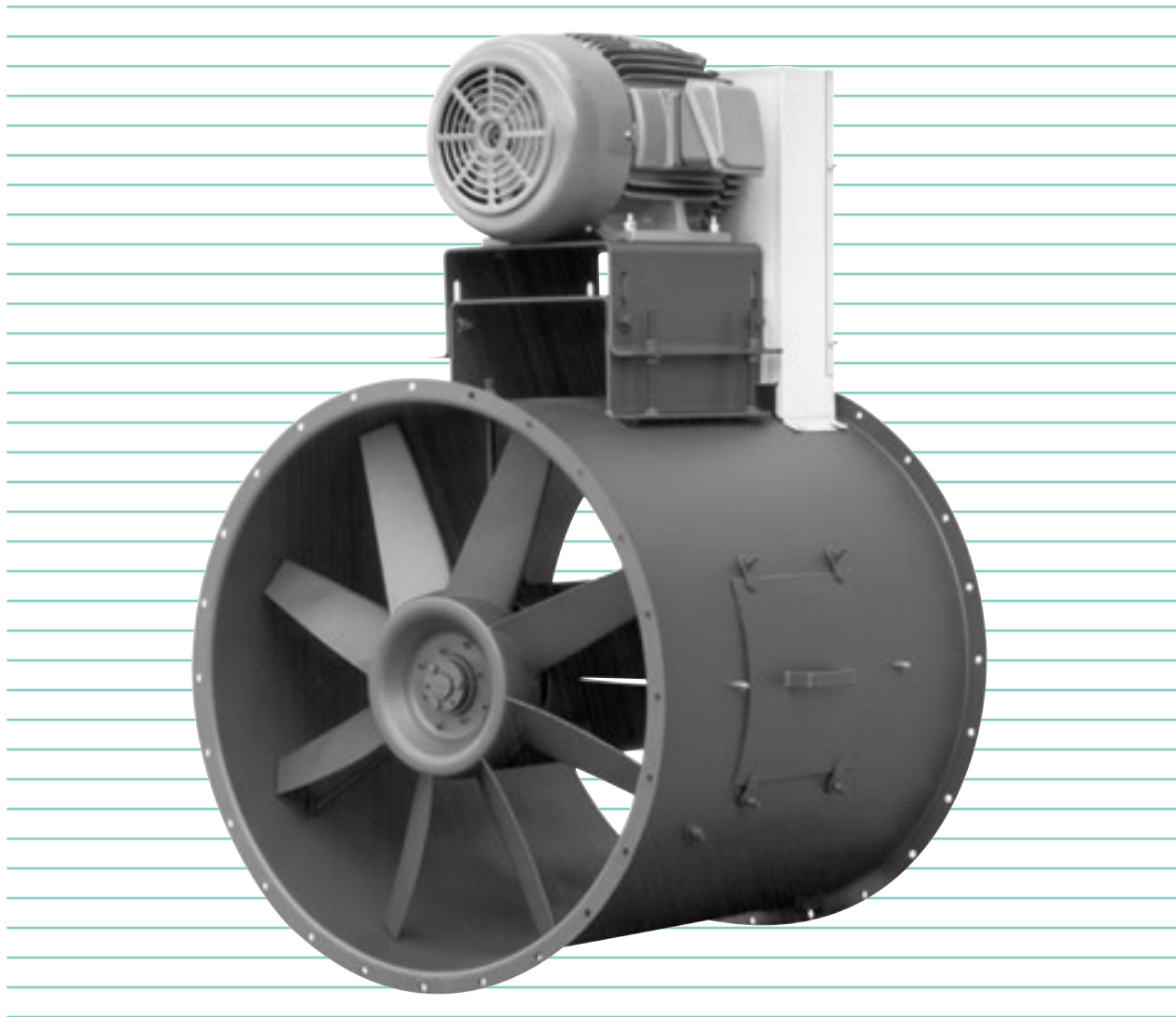


# Series 5300 Tubeaxial Fans

**Designs 5310, 5312, 5313 & 5314**





## Series 5300 Tubeaxial Fans

The Northern Blower Series 5300 Tubeaxial fan is one of the most rugged axial fans available on the market. It is designed for air supply and ventilation applications. This fan series is available in a variety of configurations including roof exhausters and panel fans. The 5300 Tubeaxial fan line can be constructed from a variety of materials, including mild steel, stainless steel, and aluminum.

### Supply and Exhaust Ventilation:

Parking Garages  
Elevator Shafts  
Warehouses  
Industrial Buildings

Design Features	2
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Dimensions	15

The ratings shown are for a specific Blade Pitch. Other Blade Pitches may be used to achieve a variety of conditions and are available on request.

**Tubeaxial Wheel**

Superior combination of efficient operation and rugged, dependable service.

**Bearings**

Heavy duty bearings sized for generous B-10 life.

**Shaft**

Turned ground and polished or fully machined to close tolerance for smooth operation.



**Housing**

Rugged heavy gauge all welded steel housing.

**Balancing**

Wheel and shaft assemblies are dynamically balanced to ISO 1940 specifications for smooth operation.

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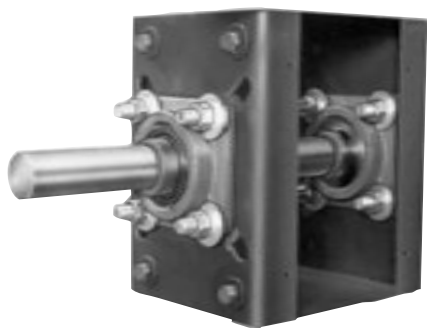
## Shafts and Bearings

### Shafts

Selected to have suitable strength and operate well below the first critical speed for each operating condition.

### Bearings

Anti-friction, grease lubricated, manufactured to internationally adopted standards by companies having worldwide acceptance and support services. Bearings are selected for continuous operation with a generous bearing life.



## Capacities

Catalogued up to 80,000 CFM.

## Pressures

Catalogued up to 1" WG.

## Temperatures

The high temperature operating limit is 300°F. The Panel fan is limited to 104°F.

## Arrangements and Configurations

This catalogue primarily refers to arrangement 9 fans. Northern Blower Tubeaxial and Panel fans are also available in arrangement 4.

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## Design 5310 Tubeaxial Wheel

The Northern Blower Tubeaxial wheel is designed for high volumes and low S.P. Blades are formed from heavy gauge steel. Catalogued from 15" to 60" diameters.



### Design 5310 Tubeaxial Fans

All sizes c/w steel housing with punched integrally rolled mounting flanges, complete with internal bearing and belt tunnel, flange mounted ball bearings, fabricated steel wheel, TG&P shaft, extended grease lines and prepunched adjustable motor base. The unit is furnished as standard with airflow arrangement OMTB (over motor through blade).



### Design 5312 Power Roof Exhauster

All sizes c/w steel housing, square mounting curb base, windguard (c/w hinged backdraft dampers, 1/2" cold rolled steel shaft, nylon bushings), internal bearing and belt tunnel, flange mounted ball bearings, fabricated steel wheel, TG&P shaft, extended grease lines and prepunched adjustable motor base.



### Design 5313 Mushroom Roof Exhauster

All sizes c/w steel housing, square mounting curb base, mushroom cap (spun, sizes 1500 to 3300: square profile, sizes 3650 to 6000), internal bearing and belt tunnel, flanged mounted ball bearings, fabricated steel wheel, TG&P shaft, extended grease lines and prepunched adjustable motor base.



### Design 5314 Axial Panel Arr 9 Belt Drive

All sizes c/w rolled steel orifice ring with punched square mounting panel, welded rigid bearing and motor base support, fabricated steel wheel with split cast iron taper-lock bushing, TG&P shaft, and prepunched adjustable motor base. Unit available with airflow arrangement OMTB (over motor through blade) as standard. Unit is optionally available with airflow arrangement TBOM (through blade over motor) when specified. Size range 2450 to 6000.



**Weatherhood**

(Designs 5310, 5312, and 5313)  
Fabricated steel hood is closed on all sides to completely enclose both motor and drive for weather protection.

**Streamlined Inlet**

(Design 5310 only) Steel orifice ring, punched to match fan flange.

**Outlet or Inlet Cone**

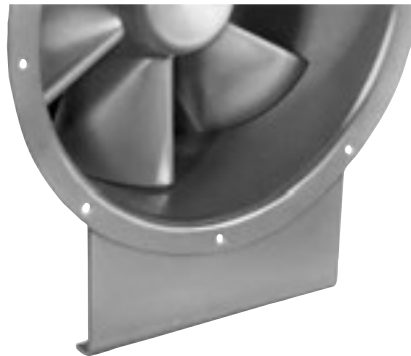
(Design 5310 only) Cones are flanged and punched at both ends. Holes in small end match those in the fan housing flange.

**Horizontal Mounting Lugs**

(Design 5310 only) Four steel "C" shaped brackets welded two per side of casing at 3 o'clock and 9 o'clock with fan in horizontal position. Holes in top and bottom of "C" accommodate suspension hanging rods.

**Horizontal Mounting Feet**

(Design 5310 only) Two mounting brackets welded to fan flange, for floor mount or top position for ceiling mount.

**Vertical Mounting Lugs**

(Design 5310 only) Four channel type lugs welded to fan housing at 90° on the circle at inlet or discharge side.



### **Belt Guard**

Guard is fabricated sheet metal enclosed on all sides with punched slotted cover plate for ventilation of drive.



### **Spraybooth Access Door**

(Design 5310 only.) One large door on sizes 1500 to 3000. Two large doors on sizes 3300 to 6000. All doors are hinged at 30° above horizontal centre line.

### **Additional Accessories**

- Motor and Drive Mounting
- Windguard and Butterfly Damper
- Curb Cap Mounting Base
- Mushroom Cap
- Screen (Inlet or Outlet)
- Spark Resistant Construction
- Companion Flange Inlet or Outlet
- Extension Channels
- Spring or RIS Isolation
- Gravity Damper
- Gravity Damper Box
- Fabricated Aluminum Wheel
- Special Metals
- Extended Grease Lines (only on 5314, arr. 9)
- Shaft and Bearing Guard (only on 5314, arr. 9)



# Fan Selection at Elevated Temperature and Altitude

## Fan Selection Table

Ratings shown in the Performance Tables are based on standard air density of .075 pounds per cubic foot at the fan Inlet. Standard air is dry air at 70°F and 29.92" Hg barometric pressure. When air density varies from standard, due to temperature or altitude changes, the Air Density Correction Factor Table is applied. Refer to the sample selection that follows.

For Power Roof Exhausters the following corrections must be added to the operating SP before selection.

Table 1

D/5312		D/5313	
OV Range	SP Correction	OV Range	SP Correction
up to 2700	1/8"	up to 2700	1/4"
2800 to 4000	1/4"	2800 to 3500	3/8"
above 4000	3/8"		

Table 2

Air Density Correction Factor							
Air Temp °F	Elevation (feet) above Sea Level						
	0	500	1000	2000	3000	4000	5000
0	.87	.88	.90	.93	.97	1.00	1.04
70	1.00	1.02	1.04	1.08	1.12	1.16	1.20
100	1.06	1.08	1.10	1.14	1.18	1.22	1.27
200	1.25	1.27	1.29	1.34	1.39	1.44	1.50
300	1.43	1.46	1.49	1.54	1.60	1.66	1.72

## Sample Selection of a Belt Drive Fan

Select a fan for the operating conditions of 26,000 CFM at 3/8" SP, 200°F and 2000 feet elevation.

- 1) Multiply the Operating SP by the Air Density Correction Factor to obtain Equivalent SP:

$$\begin{aligned} \text{Equivalent SP} &= \text{Operating SP} \times \text{Air Density Corr. Factor} \\ &= 3/8" \times 1.34 = 1/2" \end{aligned}$$

- 2) From the Performance Tables, select the fan size. For 26,000 CFM at 1/2" SP an efficient selection would be a size 4450-8V fan. Interpolating from the Performance Table given on page 12, the selected fan performance is 774 RPM and 6.3 BHP at standard temperature and pressure.

- 3) Divide the Equivalent BHP by the Air Density Correction Factor to obtain the Operating BHP:

$$\begin{aligned} \text{Operating BHP} &= \frac{\text{Equivalent BHP}}{\text{Air Density Correction Factor}} \\ &= \frac{6.3}{1.34} = 4.70 \text{ BHP} \end{aligned}$$

Size

# 1500<sub>8AB</sub>

## Design 5310 Tubeaxial Fans

Wheel Diameter = 15.00 in.  
 Outlet Area = 1.23 sq. ft.  
 Tip Speed, fpm = 3.93 x RPM

Maximum RPM = 3817

Volume O.Vel		0"		1/8"		1/4"		3/8"		1/2"		5/8"		3/4"		7/8"		1"	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	978	727	0.03	1042	0.08	1344	0.17												
1400	1141	849	0.04	1102	0.09	1391	0.19												
1600	1304	970	0.06	1177	0.11	1446	0.22	1676	0.34										
1800	1467	1091	0.09	1268	0.14	1504	0.24	1726	0.37	1923	0.51								
2000	1630	1212	0.12	1369	0.18	1565	0.27	1782	0.40	1972	0.55	2148	0.70						
2200	1793	1333	0.16	1475	0.22	1638	0.31	1840	0.44	2027	0.60	2196	0.76	2355	0.93	2504	1.11		
2400	1956	1455	0.21	1584	0.27	1724	0.36	1901	0.49	2084	0.65	2249	0.81	2403	0.99	2548	1.18	2688	1.38
2600	2119	1576	0.26	1695	0.33	1820	0.42	1970	0.54	2142	0.70	2306	0.88	2456	1.06	2597	1.25	2733	1.45
2800	2282	1697	0.33	1808	0.40	1921	0.49	2050	0.60	2204	0.76	2364	0.94	2512	1.13	2651	1.33	2781	1.54
3000	2445	1818	0.41	1922	0.49	2026	0.58	2139	0.68	2273	0.83	2423	1.01	2569	1.21	2705	1.42	2835	1.63
3200	2608	1939	0.49	2037	0.58	2133	0.67	2236	0.78	2352	0.91	2487	1.09	2628	1.29	2764	1.51	2890	1.73
3400	2771	2061	0.59	2152	0.68	2243	0.78	2337	0.89	2440	1.02	2558	1.18	2689	1.38	2821	1.60	2948	1.83
3600	2934	2182	0.70	2269	0.80	2354	0.90	2441	1.01	2535	1.14	2639	1.29	2756	1.48	2882	1.70	3006	1.93
4000	3259	2424	0.96	2502	1.06	2579	1.18	2656	1.29	2736	1.42	2821	1.57	2915	1.74	3018	1.94	3128	2.17
4400	3585	2666	1.28	2737	1.39	2807	1.51	2877	1.64	2948	1.77	3022	1.92	3099	2.08	3183	2.26	3274	2.47
4800	3911	2908	1.66	2974	1.78	3038	1.91	3102	2.05	3166	2.19	3232	2.34	3299	2.50	3370	2.67	3445	2.86
5200	4237	3150	2.11	3211	2.24	3270	2.38	3329	2.52	3388	2.67	3448	2.83	3509	2.99	3571	3.16		
5600	4563	3392	2.63	3448	2.78	3504	2.93	3559	3.08										

Maximum Motor Horsepower = 5 Maximum TEFC Motor Frame Size 184T  
 The BHP shown does not include belt drive losses. The performance shown is for fan with streamline inlet.

Size

# 1825<sub>8AB</sub>

## Design 5310 Tubeaxial Fans

Wheel Diameter = 18.25 in.  
 Outlet Area = 1.82 sq. ft.  
 Tip Speed, fpm = 4.78 x RPM

Maximum RPM = 3138

Volume O.Vel		0"		1/8"		1/4"		3/8"		1/2"		5/8"		3/4"		7/8"		1"	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	991	590	0.03	878	0.12	1122	0.26												
2000	1101	656	0.05	916	0.14	1151	0.28												
2200	1211	722	0.06	956	0.16	1183	0.31	1373	0.48										
2400	1321	787	0.08	999	0.18	1216	0.33	1403	0.51										
2600	1431	853	0.10	1046	0.20	1252	0.36	1434	0.55	1594	0.76								
2800	1541	918	0.13	1095	0.23	1289	0.39	1466	0.58	1624	0.80								
3000	1651	984	0.16	1147	0.27	1329	0.43	1500	0.62	1655	0.84	1796	1.08						
3500	1927	1148	0.25	1284	0.37	1437	0.53	1593	0.74	1739	0.97	1874	1.22	2000	1.49	2118	1.77		
4000	2202	1312	0.38	1429	0.51	1559	0.67	1695	0.88	1831	1.12	1959	1.39	2080	1.67	2195	1.96	2302	2.27
4500	2477	1476	0.54	1579	0.68	1691	0.85	1810	1.06	1932	1.31	2052	1.58	2168	1.87	2277	2.18	2382	2.51
5000	2752	1639	0.74	1732	0.89	1830	1.07	1935	1.28	2044	1.53	2153	1.81	2261	2.11	2366	2.43	2467	2.77
5500	3028	1803	0.99	1888	1.15	1974	1.34	2067	1.55	2164	1.80	2264	2.08	2363	2.39	2462	2.72	2558	3.07
6000	3303	1967	1.28	2044	1.46	2123	1.65	2206	1.87	2293	2.13	2382	2.41	2474	2.72	2565	3.06	2656	3.41
6500	3578	2131	1.63	2202	1.82	2274	2.02	2349	2.25	2427	2.51	2508	2.79	2592	3.11	2676	3.44	2760	3.80
7000	3853	2295	2.04	2361	2.24	2427	2.45	2495	2.69	2566	2.95	2640	3.24	2716	3.56	2794	3.90	2872	4.26
7500	4129	2458	2.50	2520	2.72	2582	2.95	2644	3.19	2710	3.46	2777	3.75	2847	4.07	2918	4.41	2991	4.78
8000	4404	2622	3.04	2680	3.27	2738	3.51	2796	3.76	2856	4.04	2918	4.33	2982	4.66				
8500	4679	2786	3.64	2840	3.89	2894	4.14	2949	4.41	3005	4.69	3062	4.99						
9000	4954	2949	4.32	3001	4.58	3052	4.85												

Maximum Motor Horsepower = 5 Maximum TEFC Motor Frame Size 184T  
 The BHP shown does not include belt drive losses. The performance shown is for fan with streamline inlet.

Wheel Diameter = 20.00 in.  
 Outlet Area = 2.18 sq. ft.  
 Tip Speed, fpm = 5.24 x RPM

Maximum RPM = 2862

Size

**2000** 8AB

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"		1/8"		1/4"		3/8"		1/2"		5/8"		3/4"		7/8"		1"	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2500	1146	625	0.06	834	0.16	1043	0.33												
3000	1375	750	0.10	913	0.21	1105	0.39	1270	0.59										
3500	1604	875	0.16	1008	0.27	1174	0.46	1330	0.68	1470	0.92								
4000	1833	1000	0.25	1114	0.36	1251	0.54	1397	0.78	1530	1.03	1654	1.31	1770	1.61				
4500	2063	1125	0.35	1225	0.48	1338	0.65	1470	0.89	1596	1.16	1714	1.45	1825	1.76	1931	2.09		
5000	2292	1250	0.48	1340	0.62	1435	0.79	1548	1.02	1667	1.31	1781	1.61	1887	1.94	1988	2.27	2085	2.63
5500	2521	1375	0.64	1457	0.79	1540	0.97	1636	1.19	1744	1.47	1851	1.79	1953	2.13	2051	2.48	2145	2.85
6000	2750	1500	0.83	1575	0.99	1650	1.18	1732	1.40	1826	1.67	1926	2.00	2024	2.35	2118	2.71	2208	3.09
6500	2979	1625	1.06	1694	1.23	1763	1.42	1836	1.64	1916	1.91	2006	2.23	2098	2.58	2189	2.97	2276	3.36
7000	3209	1750	1.32	1814	1.51	1878	1.71	1944	1.93	2014	2.19	2093	2.50	2177	2.85	2263	3.24	2347	3.65
7500	3438	1875	1.62	1935	1.82	1994	2.04	2055	2.27	2118	2.52	2187	2.82	2262	3.17	2342	3.56	2422	3.97
8000	3667	2000	1.97	2056	2.18	2112	2.40	2168	2.65	2226	2.91	2287	3.20	2354	3.53	2425	3.91	2500	4.33
8500	3896	2125	2.36	2178	2.59	2230	2.82	2282	3.07	2336	3.34	2392	3.63	2452	3.96	2515	4.32	2583	4.73
9000	4125	2249	2.80	2300	3.04	2349	3.29	2398	3.55	2449	3.82	2500	4.12	2554	4.44	2611	4.80	2673	5.19
9500	4354	2374	3.29	2422	3.55	2469	3.80	2515	4.07	2562	4.36	2610	4.66	2660	4.98	2712	5.33	2767	5.72
10000	4584	2499	3.84	2544	4.10	2589	4.38	2633	4.66	2677	4.95	2723	5.26	2769	5.59	2817	5.94		
10500	4813	2624	4.44	2667	4.72	2709	5.00	2751	5.30	2794	5.60	2836	5.92						
11000	5042	2748	5.11	2789	5.40	2830	5.69												

maximum motor Horsepower = 7.5 Maximum TEFC Motor Frame Size 2131  
 The BHP shown does not include belt drive losses. The performance shown is for fan with streamline inlet.

Wheel Diameter = 24.50 in.  
 Outlet Area = 3.27 sq. ft.  
 Tip Speed, fpm = 6.41 x RPM

Maximum RPM = 2340

Size

**2450** 8W

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"		1/8"		1/4"		3/8"		1/2"		5/8"		3/4"		7/8"		1"	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3500	1069	467	0.08	638	0.21														
4000	1222	534	0.12	677	0.25														
4500	1375	600	0.16	721	0.30	872	0.55												
5000	1527	667	0.23	772	0.37	906	0.61												
5500	1680	734	0.30	827	0.45	944	0.69	1067	1.00										
6000	1833	800	0.39	885	0.55	986	0.78	1101	1.09										
6500	1985	867	0.50	945	0.66	1033	0.89	1138	1.20	1242	1.58								
7000	2138	934	0.62	1006	0.80	1084	1.02	1178	1.33	1276	1.70	1372	2.13						
8000	2444	1067	0.93	1130	1.12	1195	1.35	1269	1.65	1353	2.02	1439	2.44	1524	2.91				
9000	2749	1200	1.32	1256	1.54	1313	1.78	1374	2.07	1442	2.42	1517	2.84	1594	3.31	1670	3.83	1744	4.36
10000	3055	1334	1.81	1384	2.05	1434	2.31	1486	2.60	1544	2.94	1606	3.35	1673	3.81	1742	4.32	1811	4.87
11000	3360	1467	2.40	1513	2.67	1558	2.95	1604	3.25	1653	3.59	1707	3.98	1764	4.43	1824	4.93	1887	5.48
12000	3665	1600	3.12	1642	3.41	1684	3.71	1726	4.02	1769	4.37	1815	4.75	1864	5.19	1916	5.67	1971	6.21
13000	3971	1733	3.97	1772	4.28	1811	4.60	1849	4.93	1888	5.29	1929	5.68	1971	6.10	2017	6.57	2065	7.09
14000	4276	1867	4.95	1903	5.29	1938	5.63	1974	5.98	2010	6.35	2046	6.75	2084	7.18	2124	7.64	2167	8.14
15000	4582	2000	6.09	2033	6.45	2066	6.81	2100	7.18	2133	7.57	2167	7.98	2201	8.41	2237	8.88	2274	9.37
16000	4887	2133	7.39	2164	7.77	2195	8.15	2227	8.55	2257	8.96	2289	9.38	2321	9.82				
17000	5193	2266	8.86	2295	9.26	2325	9.67												

maximum motor Horsepower = 10 Maximum TEFC Motor Frame Size 2151  
 The BHP shown does not include belt drive losses. The performance shown is for fan with streamline inlet.

Wheel Diameter = 27.00 in.  
 Outlet Area = 3.98 sq. ft.  
 Tip Speed, fpm = 7.07 x RPM

Size

**2700** 8x

Maximum RPM = 2122

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	1006	411	0.1																
4500	1132	462	0.1																
5000	1258	513	0.2	668	0.4														
6000	1509	616	0.3	731	0.5														
7000	1761	718	0.4	807	0.6														
8000	2012	821	0.6	892	0.8	1002	1.2												
9000	2264	924	0.9	984	1.1	1071	1.5	1177	2.0										
10000	2515	1026	1.2	1079	1.5	1149	1.8	1240	2.3	1335	2.9								
11000	2767	1129	1.6	1176	1.9	1234	2.2	1310	2.7	1396	3.3								
12000	3018	1231	2.1	1274	2.4	1324	2.8	1387	3.2	1462	3.8	1542	4.5						
13000	3270	1334	2.7	1373	3.0	1416	3.3	1470	3.8	1534	4.4	1606	5.1	1680	5.8				
14000	3521	1436	3.3	1473	3.7	1512	4.0	1557	4.5	1613	5.1	1675	5.7	1743	6.5	1812	7.3		
15000	3773	1539	4.1	1573	4.5	1608	4.8	1648	5.3	1696	5.9	1751	6.5	1811	7.3	1875	8.1	1939	9.0
16000	4024	1641	5.0	1673	5.4	1706	5.8	1742	6.2	1783	6.8	1831	7.4	1884	8.2	1942	9.0	2002	9.9
17000	4276	1744	6.0	1773	6.4	1804	6.8	1837	7.3	1874	7.8	1916	8.4	1963	9.2	2014	10.0	2068	10.8
18000	4527	1846	7.1	1874	7.5	1903	7.9	1933	8.4	1966	9.0	2003	9.6	2045	10.3	2090	11.1		
19000	4779	1949	8.3	1975	8.8	2002	9.2	2030	9.7	2060	10.3	2094	10.9						
20000	5030	2051	9.7	2076	10.2	2102	10.7												

maximum motor Horsepower = 15 Maximum TEFC Motor Frame Size 2541  
 The BHP shown does not include belt drive losses. The performance shown is for fan with streamline inlet.

Wheel Diameter = 30.00 in.  
 Outlet Area = 4.91 sq. ft.  
 Tip Speed, fpm = 7.85 x RPM

Size

**3000** 8x

Maximum RPM = 1911

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	1222	448	0.2	608	0.4														
7000	1426	522	0.3	658	0.5														
8000	1630	597	0.4	713	0.7	837	1.1												
9000	1833	672	0.6	773	0.9	885	1.3	990	1.9										
10000	2037	746	0.8	837	1.1	935	1.6	1035	2.1										
11000	2241	821	1.0	903	1.4	990	1.8	1082	2.4	1170	3.1								
12000	2445	896	1.3	970	1.7	1048	2.2	1132	2.8	1216	3.4	1294	4.1						
13000	2648	970	1.7	1039	2.1	1110	2.6	1186	3.2	1264	3.9	1340	4.6	1411	5.4				
14000	2852	1045	2.1	1109	2.5	1174	3.1	1242	3.6	1315	4.3	1387	5.1	1457	5.9	1522	6.7		
15000	3056	1119	2.5	1179	3.1	1239	3.6	1302	4.2	1368	4.9	1437	5.7	1503	6.5	1567	7.4	1629	8.3
16000	3259	1194	3.1	1250	3.6	1306	4.2	1364	4.8	1425	5.5	1488	6.3	1552	7.2	1614	8.1	1674	9.0
17000	3463	1268	3.7	1321	4.3	1374	4.9	1428	5.5	1484	6.2	1542	7.0	1602	7.9	1662	8.8	1721	9.8
18000	3667	1343	4.4	1393	5.0	1442	5.6	1493	6.3	1545	7.0	1599	7.8	1655	8.6	1712	9.6	1769	10.6
19000	3871	1417	5.2	1465	5.8	1512	6.5	1559	7.1	1608	7.9	1658	8.6	1710	9.5	1764	10.5	1818	11.5
20000	4074	1492	6.0	1537	6.7	1581	7.4	1626	8.1	1672	8.8	1719	9.6	1768	10.5	1818	11.4	1869	12.5
22000	4482	1641	8.0	1682	8.8	1722	9.5	1763	10.3	1804	11.1	1846	11.9	1889	12.8				
24000	4889	1790	10.4	1827	11.2	1864	12.0	1901	12.8										
26000	5297																		

maximum motor Horsepower = 15 Maximum TEFC Motor Frame Size 2541  
 The BHP shown does not include belt drive losses. The performance shown is for fan with streamline inlet.



Wheel Diameter = 33.00 in.  
 Outlet Area = 5.94 sq. ft.  
 Tip Speed, fpm = 8.64 x RPM

Maximum RPM = 1736

Size

**3300** 8X

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	1179	381	0.2	539	0.5														
8000	1347	435	0.3	573	0.6														
9000	1515	489	0.4	610	0.8	733	1.3												
10000	1684	544	0.5	650	0.9	765	1.5												
11000	1852	598	0.7	693	1.1	799	1.7	897	2.4										
12000	2020	652	0.9	738	1.3	835	1.9	930	2.7										
13000	2189	707	1.1	785	1.6	873	2.2	963	3.0	1046	3.8								
14000	2357	761	1.4	833	1.9	913	2.5	997	3.3	1078	4.1								
15000	2525	815	1.7	883	2.2	956	2.9	1034	3.7	1111	4.5	1152	5.0						
16000	2694	870	2.1	933	2.6	1000	3.3	1072	4.1	1146	5.0	1216	6.0	1283	7.0				
17000	2862	924	2.5	983	3.1	1045	3.8	1112	4.6	1182	5.5	1250	6.5	1315	7.5	1376	8.6		
18000	3031	978	3.0	1034	3.6	1092	4.3	1154	5.1	1220	6.0	1285	7.0	1348	8.1	1408	9.2	1466	10.4
20000	3367	1087	4.1	1137	4.8	1188	5.5	1243	6.3	1300	7.3	1359	8.3	1417	9.4	1475	10.6	1530	11.9
22000	3704	1195	5.5	1241	6.2	1287	6.9	1335	7.8	1386	8.8	1438	9.8	1491	11.0	1545	12.2	1598	13.5
24000	4041	1304	7.1	1346	7.9	1387	8.7	1431	9.6	1476	10.6	1523	11.7	1571	12.8	1620	14.1	1669	15.4
26000	4377	1412	9.1	1451	9.9	1489	10.7	1529	11.6	1569	12.7	1612	13.8						
28000	4714	1521	11.3	1557	12.2	1592	13.1	1628	14.1										
30000	5051	1629	13.9	1663	14.8														

maximum motor Horsepower = 15

Maximum TEFC Motor Frame Size 2541

The BHP shown does not include belt drive losses.

The performance shown is for fan with streamline inlet.

Wheel Diameter = 36.50 in.  
 Outlet Area = 7.27 sq. ft.  
 Tip Speed, fpm = 9.56 x RPM

Maximum RPM = 1569

Size

**3650** 8Z

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9000	1239	367	0.3	494	0.6														
10000	1376	408	0.3	520	0.8														
11000	1514	449	0.5	548	0.9	657	1.5												
12000	1651	490	0.6	578	1.0	681	1.7												
13000	1789	531	0.8	610	1.2	706	1.9												
14000	1927	572	1.0	644	1.4	732	2.1	817	2.9										
16000	2202	653	1.4	715	1.9	788	2.6	866	3.5	940	4.4								
18000	2477	735	2.0	790	2.6	850	3.3	919	4.2	1053	6.2								
20000	2752	816	2.8	866	3.4	918	4.1	977	5.0	1040	6.0	1102	7.1	1160	8.3				
22000	3028	898	3.7	943	4.3	989	5.1	1040	6.0	1096	7.0	1153	8.2	1209	9.4	1262	10.7	1314	12.1
24000	3303	980	4.8	1021	5.5	1062	6.2	1107	7.1	1156	8.2	1208	9.4	1260	10.7	1312	12.1	1361	13.5
26000	3578	1061	6.1	1099	6.8	1137	7.6	1177	8.5	1220	9.6	1267	10.8	1315	12.2	1363	13.6	1410	15.0
28000	3853	1143	7.6	1178	8.4	1213	9.3	1249	10.2	1288	11.2	1329	12.5	1373	13.8	1418	15.2	1463	16.8
30000	4129	1224	9.3	1257	10.2	1290	11.1	1323	12.1	1358	13.1	1395	14.3	1434	15.7	1475	17.1	1517	18.7
32000	4404	1306	11.3	1336	12.2	1367	13.2	1398	14.2	1430	15.3	1463	16.5	1499	17.8	1536	19.3		
34000	4679	1387	13.6	1416	14.6	1445	15.6	1474	16.6	1503	17.7	1534	18.9						
36000	4954	1468	16.1	1496	17.2	1523	18.2	1550	19.3										
38000	5230	1550	19.0																

maximum motor Horsepower = 20

Maximum TEFC Motor Frame Size 2561

The BHP shown does not include belt drive losses.

The performance shown is for fan with streamline inlet.

Size

# 4025<sub>8V</sub>

## Design 5310 Tubeaxial Fans

Wheel Diameter = 40.25 in.  
 Outlet Area = 8.84 sq. ft.  
 Tip Speed, fpm = 10.5 x RPM

Maximum RPM = 1429

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	1132	320	0.2	418	0.6														
12000	1358	384	0.4	462	0.8	555	1.4												
14000	1584	447	0.7	513	1.1	588	1.7												
16000	1811	511	1.0	568	1.4	630	2.0	700	2.8										
18000	2037	575	1.4	625	1.9	679	2.5	737	3.3	800	4.2								
20000	2263	639	2.0	684	2.5	731	3.1	781	3.8	835	4.8	892	5.8						
22000	2490	703	2.6	743	3.2	786	3.8	830	4.6	877	5.5	927	6.5	979	7.7				
24000	2716	767	3.4	804	4.0	842	4.7	882	5.5	924	6.3	967	7.3	1013	8.5	1061	9.8	1109	11.1
26000	2942	831	4.4	865	5.0	899	5.7	936	6.5	974	7.4	1013	8.4	1053	9.5	1096	10.8	1140	12.1
28000	3169	895	5.4	926	6.1	958	6.9	991	7.7	1026	8.6	1062	9.6	1098	10.7	1135	11.9	1175	13.3
30000	3395	958	6.7	988	7.4	1018	8.2	1048	9.1	1080	10.0	1113	11.0	1146	12.1	1180	13.3	1215	14.6
32000	3622	1022	8.1	1050	8.9	1078	9.7	1106	10.6	1135	11.6	1166	12.6	1196	13.7	1228	14.9	1259	16.2
34000	3848	1086	9.7	1112	10.6	1138	11.4	1164	12.3	1192	13.3	1220	14.4	1249	15.5	1278	16.7	1307	18.0
36000	4074	1150	11.5	1175	12.4	1199	13.3	1224	14.3	1249	15.3	1275	16.4	1302	17.6	1329	18.8	1357	20.0
38000	4301	1214	13.6	1237	14.5	1260	15.5	1283	16.5	1307	17.5	1332	18.6	1357	19.8	1382	21.0	1408	22.3
40000	4527	1277	15.8	1300	16.8	1322	17.8	1344	18.8	1366	19.9	1389	21.1	1412	22.3				
42000	4753	1341	18.3	1362	19.3	1383	20.4	1404	21.5										
44000	4980	1405	21.1																

Maximum Motor Horsepower = 25

Maximum TEFC Motor Frame Size 2841

The BHP shown does not include belt drive losses.

The performance shown is for fan with streamline inlet.

Size

# 4450<sub>8V</sub>

## Design 5310 Tubeaxial Fans

Wheel Diameter = 44.50 in.  
 Outlet Area = 10.8 sq. ft.  
 Tip Speed, fpm = 11.7 x RPM

Maximum RPM = 1282

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	1111	273	0.3	372	0.7														
14000	1296	318	0.4	404	0.9														
16000	1481	364	0.6	441	1.1	512	1.8												
18000	1667	409	0.9	480	1.5	541	2.1												
20000	1852	455	1.2	520	1.8	575	2.6	633	3.4										
22000	2037	500	1.6	560	2.3	612	3.1	662	3.9	716	4.9								
24000	2222	546	2.0	602	2.8	650	3.6	695	4.5	743	5.5	793	6.7						
26000	2407	591	2.6	644	3.4	689	4.3	731	5.2	774	6.3	819	7.4	866	8.7				
28000	2592	637	3.2	686	4.2	729	5.1	769	6.1	808	7.1	848	8.2	891	9.5	934	10.9		
30000	2778	682	4.0	728	5.0	770	6.0	807	7.0	844	8.0	881	9.2	919	10.5	959	11.9	999	13.4
32000	2963	727	4.8	771	5.9	811	6.9	847	8.0	881	9.1	915	10.3	950	11.6	987	13.0	1024	14.5
34000	3148	773	5.8	814	6.9	852	8.0	887	9.2	920	10.3	952	11.5	984	12.8	1017	14.2	1052	15.7
36000	3333	818	6.9	857	8.1	894	9.2	927	10.4	959	11.7	989	12.9	1020	14.2	1050	15.6	1082	17.1
38000	3518	864	8.1	901	9.3	936	10.6	968	11.8	999	13.1	1028	14.4	1057	15.8	1085	17.2	1114	18.7
40000	3704	909	9.5	945	10.7	978	12.1	1009	13.4	1039	14.7	1067	16.1	1094	17.5	1122	18.9	1149	20.4
44000	4074	1000	12.6	1032	14.0	1063	15.4	1092	16.9	1120	18.3	1146	19.8	1172	21.3	1197	22.8	1222	24.4
48000	4444	1091	16.3	1120	17.9	1149	19.4	1176	21.0	1202	22.6	1227	24.2						
52000	4815	1181	20.7	1209	22.4	1235	24.1												

Maximum Motor Horsepower = 25

Maximum TEFC Motor Frame Size 2841

The BHP shown does not include belt drive losses.

The performance shown is for fan with streamline inlet.

Wheel Diameter = 49.00 in.  
 Outlet Area = 13.1 sq. ft.  
 Tip Speed, fpm = 12.8 x RPM

Maximum RPM = 1172

Size

**4900** 8T

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
14000	1069	269	0.3	362	0.8														
16000	1222	308	0.4	389	1.0														
18000	1375	346	0.6	418	1.2														
20000	1527	385	0.9	449	1.5	514	2.2												
22000	1680	423	1.2	481	1.8	541	2.6												
24000	1833	462	1.5	514	2.2	569	3.0	623	4.0										
26000	1985	500	1.9	548	2.7	599	3.5	649	4.5										
28000	2138	539	2.4	583	3.2	630	4.1	677	5.1	723	6.2								
30000	2291	577	2.9	619	3.8	662	4.7	706	5.8	749	6.9	793	8.1						
32000	2444	616	3.6	655	4.5	694	5.4	736	6.5	777	7.7	817	8.9						
34000	2596	654	4.3	691	5.2	728	6.2	767	7.4	806	8.6	844	9.8	882	11.2				
36000	2749	692	5.1	727	6.1	762	7.1	798	8.3	835	9.5	872	10.8	908	12.2	944	13.7		
40000	3055	769	7.0	801	8.1	832	9.2	864	10.5	897	11.8	930	13.1	963	14.6	995	16.1	1027	17.7
44000	3360	846	9.3	875	10.5	903	11.7	932	13.1	961	14.4	991	15.9	1021	17.4	1051	19.0	1081	20.7
48000	3665	923	12.0	949	13.3	975	14.7	1001	16.1	1028	17.6	1055	19.1	1083	20.7	1110	22.4	1137	24.1
52000	3971	1000	15.3	1024	16.7	1048	18.2	1072	19.7	1096	21.2	1121	22.8	1146	24.5				
56000	4276	1077	19.1	1099	20.6	1122	22.2	1144	23.8	1166	25.4								
60000	4582	1153	23.5																

maximum motor Horsepower = 30 Maximum TEFC Motor Frame Size 2861

The BHP shown does not include belt drive losses.

The performance shown is for fan with streamline inlet.

Wheel Diameter = 54.25 in.  
 Outlet Area = 16.1 sq. ft.  
 Tip Speed, fpm = 14.2 x RPM

Maximum RPM = 1056

Size

**5425** 80

**Design 5310 Tubeaxial Fans**

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
18000	1121	257	0.4	328	1.0														
20000	1246	286	0.6	350	1.2	414	2.0												
22000	1371	314	0.7	372	1.5	430	2.3												
24000	1495	343	1.0	396	1.7	449	2.6	503	3.7										
26000	1620	372	1.2	421	2.1	469	2.9	519	4.0										
28000	1744	400	1.5	446	2.4	491	3.4	537	4.4	583	5.7								
30000	1869	429	1.9	471	2.8	514	3.8	556	4.9	599	6.2								
32000	1994	457	2.3	497	3.3	537	4.4	577	5.5	617	6.7	657	8.2						
34000	2118	486	2.7	523	3.8	561	4.9	598	6.1	635	7.3	673	8.8	712	10.4				
36000	2243	515	3.2	550	4.4	585	5.6	621	6.8	656	8.0	691	9.5	727	11.1	763	12.8		
40000	2492	572	4.4	603	5.7	635	7.0	667	8.3	699	9.7	730	11.1	762	12.7	795	14.4	827	16.3
44000	2741	629	5.9	658	7.3	686	8.8	716	10.2	745	11.6	773	13.1	802	14.7	831	16.4	860	18.3
48000	2990	686	7.7	712	9.2	738	10.8	765	12.3	792	13.9	819	15.5	845	17.1	871	18.9	898	20.7
52000	3239	743	9.7	767	11.4	792	13.1	816	14.8	841	16.5	866	18.2	890	19.9	914	21.7	938	23.6
56000	3489	800	12.2	823	13.9	845	15.8	868	17.6	891	19.4	914	21.2	937	23.1	959	24.9	982	26.9
60000	3738	857	15.0	878	16.9	899	18.8	920	20.8	941	22.7	963	24.7	984	26.6	1006	28.6		
65000	4049	929	19.0	948	21.1	967	23.2	987	25.3	1006	27.4	1026	29.5						
70000	4361	1000	23.8	1018	26.0	1036	28.2												

maximum motor Horsepower = 30 Maximum TEFC Motor Frame Size 2861

The BHP shown does not include belt drive losses.

The performance shown is for fan with streamline inlet.

Size

**6000** 8J

**Design 5310 Tubeaxial Fans**

Wheel Diameter = 60.00 in.  
 Outlet Area = 19.6 sq. ft.  
 Tip Speed, fpm = 15.7 x RPM  
 Maximum RPM = 957

Volume O.Vel		0"SP		1/8"SP		1/4"SP		3/8"SP		1/2"SP		5/8"SP		3/4"SP		7/8"SP		1"SP	
CFM	FPM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
24000	1222	273	0.6	347	1.4	416	2.4												
26000	1324	296	0.8	364	1.6	429	2.6												
28000	1426	318	1.0	382	1.9	443	2.9												
30000	1528	341	1.2	401	2.2	459	3.3	513	4.5										
32000	1630	364	1.5	420	2.5	475	3.6	526	4.9										
36000	1833	409	2.1	460	3.2	508	4.5	556	5.8	602	7.3								
40000	2037	455	2.9	500	4.1	544	5.5	588	6.9	630	8.4	671	10.1						
44000	2241	500	3.9	542	5.2	582	6.7	622	8.2	661	9.7	699	11.5	736	13.4				
48000	2445	546	5.0	584	6.5	621	8.0	657	9.6	694	11.3	729	13.1	764	15.0	798	17.0	832	19.3
52000	2648	591	6.4	627	8.0	661	9.6	695	11.3	728	13.1	762	15.0	794	16.9	826	19.0	857	21.2
56000	2852	637	8.0	670	9.7	701	11.4	733	13.3	764	15.1	796	17.1	826	19.1	856	21.2	886	23.4
60000	3056	682	9.8	713	11.6	743	13.5	772	15.4	801	17.4	831	19.5	860	21.5	888	23.7	916	26.0
65000	3310	739	12.5	767	14.4	795	16.5	822	18.5	849	20.6	876	22.8	903	25.0	930	27.3		
70000	3565	796	15.6	822	17.7	848	19.9	873	22.1	899	24.3	924	26.6	949	29.0				
75000	3820	852	19.2	877	21.4	901	23.7	925	26.1	949	28.5								
80000	4074	909	23.3	932	25.6														

Maximum Motor Horsepower = 30

Maximum TEFC Motor Frame Size 286T

The BHP shown does not include belt drive losses.

The performance shown is for fan with streamline inlet.







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