

# Twin City Fan & Blower

## *LOUVERED PENTHOUSE SUPPLY FANS*

**TYPE LPSF**



# LPSF Louvered Penthouse Supply Fans

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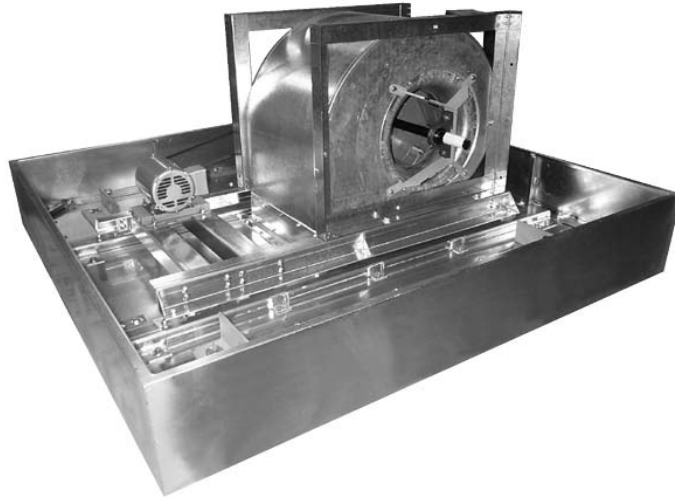
The Twin City Fan & Blower LPSF Louvered Penthouse Supply Fan is a roof mounted centrifugal supply fan designed to provide filtered outside air to buildings such as manufacturing plants, warehouses, and auditoriums. The louvered penthouse fan supplies fresh make-up air to replace the air lost through industrial processes, fume hood exhaust, or general building ventilation.

The Twin City Fan & Blower penthouse unit is a self-contained, completely weatherproof filtered supply fan package. This package includes an arrangement

3F double width backward curved fan, common fan/motor base, V-belt drive, and filters all enclosed in a louvered aluminum hood with aluminum top cap. A reinforcing rib in every louver extrusion gives additional strength to each louver.

## Sizes and Capacities

- 10 sizes from 12" to 36"
- Capacities from 1,250 to 47,000 CFM
- Static pressures to 5½"



## Construction Features

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### Wheels

The unique design of the single thickness backward inclined wheel provides efficiencies and sound power levels equal to or better than many other manufacturers' airfoil wheels. The aerodynamic blade profile and wider wheel combine to create a more efficient fan design which significantly improves efficiency and reduces sound power levels, especially in the lower frequencies which are the hardest to control.

### Bearings and Bearing Supports

Fans are designed with regreasable pillow block bearings which provide a minimum life of 200,000 hours (L-50) at maximum cataloged speed. These bearings are mounted to a heavy duty steel support structure to ensure strength and rigidity.

### Drives

Cast iron drives are sized for at least 120% of motor horsepower with optional 150% available. Drives are set to the required RPM before shipping from our factory.

### Lifting Lugs

For ease of installation and handling, lifting lugs are provided on all LPSF units.

### Filters

Filters are 2" aluminum mesh and are easily removed for washing.



*Filter section*

# Construction Features

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## Filter Channels

Formed filter channels securely hold filters in place and provide easy removal from inside.

## Motors

A variety of single and three phase motors are available in open drip (ODP), ODP 2-speed, and totally enclosed fan cooled (TEFC) enclosures. High efficiency models are also available.

## Motor Slide Base

Motor slide bases provide positive slide-adjustment for proper belt tension. Turning jack screws force the motor to slide laterally in slots until proper tension is achieved.

## Shaft

Shafts are turned, ground and polished cold rolled steel accurately sized for the proper bearing size. The shafts are extended at both ends for flexibility in mounting V-belt drives.

## Fan Housings

Fan housings are constructed of galvanized steel. The side sheets are fastened to the scroll housing with an airtight lock seam connection.

## Top Cap

Fully weather tight top cap provides complete protection and easy removal for maintenance and service. Low profile cover is pitched to assure weather runoff. Optional 1" fiberglass insulation is available to help prevent condensation.

## Side Access Panel

Side access panel allows for easy access to the inside of the unit without the removal of the top cap.



# Accessories

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## Screens

Bird screens are available for mounting inside the hood of the penthouse. They are easily removed during maintenance. Screens are manufactured from expanded aluminum and are used in lieu of filters.



## Fan Inlet Screens

Fan inlet screens are available for mounting in the fan inlets. Screens are barbecue grill type.

## Backdraft Dampers

Backdraft dampers are available for duct mounting. These dampers are aluminum construction and either gravity or motor operated. The fan discharge is extended when the damper accessory is specified.

## Roof Curbs

Roof curbs are available in galvanized steel or aluminum construction. The fan roof cap mounts directly on the roof curb.

## Disconnect Switches

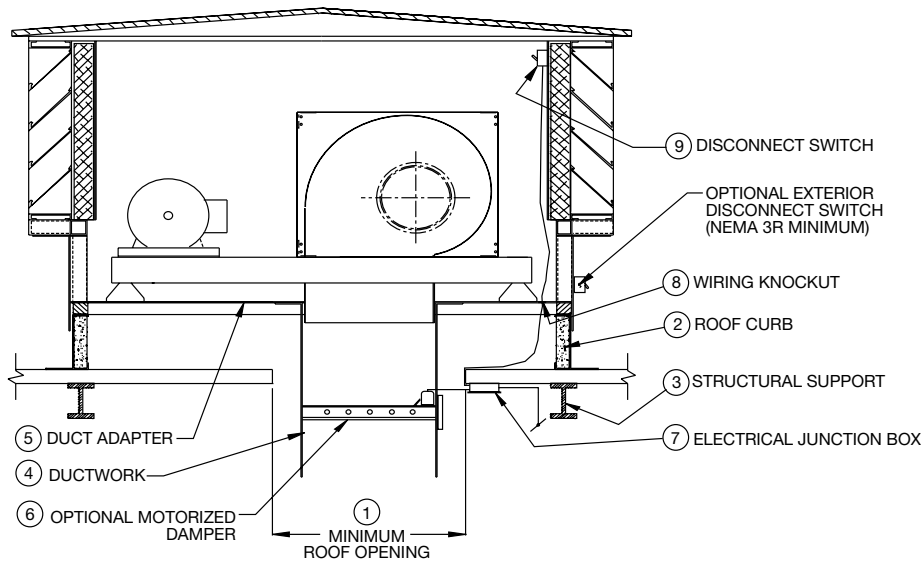
Disconnect switches are available for single and three phase units and are mounted inside the hood as standard. Optional exterior mounted disconnect switches are available (NEMA 3R minimum). Wire is run from the motor into the handy box for connection.

## Throw-Away Filters

All units shall be equipped with re-usable filters, however throw-away filters are also available.

# Typical Installation

The following is a typical installation for the Model LPSF louvered penthouse supply fan showing recommended locations for accessories, options and items supplied by others. This arrangement offers easy installation, safety and accessibility for service.



- ① Minimum roof opening dimensions can be found on dimensional drawing for each fan size. Roof openings may be larger if desired, depending on roof structure.
- ② Twin City Fan roof curbs are specially designed to bear and distribute the weight of the LPSF. Curbs built by others must have equal capabilities.
- ③ It may be necessary to add additional supports beneath the load-carrying sides of the fan and roof curb as shown.
- ④ To reduce turbulence between the fan discharge and the damper, a minimum length of ductwork is recommended from the roof curb to the roof opening. This short length of duct should be used in nonducted as well as ducted installation.
- ⑤ The duct adapter fits over the roof curb and locates the top of the duct to allow ductwork to be completed before the fan is set in place. Ductwork requires additional support.
- ⑥ Motorized dampers should be located below the roof line for ease of service.
- ⑦ The electrical junction box should be mounted in a location that permits ease of wiring the fan motor and damper actuator.
- ⑧ Wiring knockouts are provided in the duct adapter and base pan.
- ⑨ Electrical disconnects are recommended for safety in servicing the fan. Shown is the NEMA 1 enclosure for interior mounting and NEMA 3R enclosure for exterior mounting.

# Performance Data

## LPSF 12

Outlet Area = 1.70 ft<sup>2</sup>      Wheel Dia. = 12.72 in.      Tip Speed = 3.33 x RPM      Max. BHP = 0.186 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" 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
1193	700	937	0.13	1247	0.27	1507	0.42	1729	0.59																
1363	800	981	0.16	<u>1259</u>	<u>0.30</u>	1520	0.47	1739	0.65	1935	0.84	2113	1.03												
1534	900	1030	0.19	<u>1289</u>	<u>0.34</u>	1531	0.51	1753	0.71	1945	0.91	2121	1.12	2285	1.34										
1704	1000	1081	0.22	<u>1329</u>	<u>0.38</u>	<u>1546</u>	<u>0.56</u>	<u>1765</u>	<u>0.77</u>	<u>1959</u>	<u>0.98</u>	<u>2133</u>	<u>1.21</u>	<u>2294</u>	<u>1.44</u>	2446	1.68	2590	1.93						
1874	1100	1134	0.25	1373	0.43	<u>1577</u>	<u>0.62</u>	<u>1775</u>	<u>0.83</u>	1971	1.06	2146	1.29	2306	1.54	2456	1.79	2598	2.05	2733	2.32	2863	2.60		
2045	1200	1189	0.29	1421	0.48	1618	0.69	<u>1798</u>	<u>0.90</u>	1981	1.14	2159	1.39	2320	1.65	2469	1.91	2609	2.18	2743	2.46	2871	2.75		
2215	1300	1246	0.34	1470	0.54	1661	0.76	<u>1833</u>	<u>0.98</u>	<u>1998</u>	<u>1.22</u>	2168	1.48	2332	1.75	2482	2.03	2622	2.31	2755	2.61	2881	2.91		
2386	1400	1306	0.39	1522	0.61	1707	0.83	1874	1.07	2029	1.32	2184	1.58	2341	1.86	2494	2.15	2636	2.45	2768	2.76	2894	3.07		
2556	1500	1367	0.45	1574	0.67	1755	0.91	1918	1.16	2068	1.42	<u>2211</u>	<u>1.69</u>	<u>2356</u>	<u>1.98</u>	2503	2.28	2647	2.59	2781	2.91	2907	3.23		
2726	1600	1429	0.52	1628	0.75	1805	1.00	1963	1.26	2110	1.53	<u>2248</u>	<u>1.81</u>	<u>2382</u>	<u>2.11</u>	<u>2518</u>	<u>2.41</u>	2656	2.73	2792	3.07	2920	3.40		
2897	1700	1493	0.60	1684	0.83	1856	1.10	2010	1.37	2154	1.65	2289	1.95	<u>2417</u>	<u>2.25</u>	<u>2543</u>	<u>2.56</u>	<u>2671</u>	<u>2.88</u>	2802	3.23	2930	3.57		
3067	1800	1558	0.68	1740	0.92	1908	1.20	2060	1.49	2200	1.78	2332	2.08	2457	2.39	<u>2577</u>	<u>2.71</u>	<u>2697</u>	<u>3.05</u>	<u>2818</u>	<u>3.39</u>	<u>2940</u>	<u>3.75</u>		
3238	1900	1624	0.77	1799	1.02	1962	1.31	2111	1.61	2247	1.91	2377	2.23	2500	2.55	2617	2.88	<u>2731</u>	<u>3.23</u>	<u>2844</u>	<u>3.58</u>	<u>2958</u>	<u>3.94</u>		
3408	2000	1692	0.87	1859	1.13	2016	1.42	2162	1.74	2297	2.06	2423	2.38	2544	2.72	2659	3.06	2769	3.41	<u>2877</u>	<u>3.77</u>	<u>2984</u>	<u>4.14</u>		
3578	2100	1760	0.98	1919	1.25	2072	1.55	2215	1.88	2347	2.21	2471	2.55	2589	2.89	2703	3.25	2811	3.61	<u>2915</u>	<u>3.97</u>	<u>3018</u>	<u>4.35</u>		
3749	2200	1829	1.10	1982	1.38	2129	1.68	2269	2.02	2399	2.37	2521	2.72	2636	3.08	2747	3.44	2855	3.82	2957	4.20	3057	4.58		
3919	2300	1898	1.22	2044	1.52	2187	1.83	2323	2.18	2451	2.54	2571	2.90	2684	3.27	2793	3.65	2899	4.04	3000	4.42	3098	4.82		
4090	2400	1969	1.36	2109	1.68	2247	1.99	2379	2.34	2504	2.71	2623	3.10	2734	3.48	2841	3.87	2944	4.26	3045	4.67	3142	5.08		
4260	2500	2039	1.51	2173	1.84	2307	2.16	2435	2.52	2558	2.90	2675	3.30	2785	3.69	2890	4.09	2991	4.50	3090	4.92	3186	5.34		
4430	2600	2110	1.67	2239	2.02	2368	2.35	2493	2.71	2613	3.10	2728	3.51	2837	3.92	2940	4.33	3040	4.75	3136	5.17	3230	5.61		
4771	2800	2253	2.03	2373	2.40	2493	2.76	2611	3.13	2725	3.53	2836	3.96	2942	4.40	3043	4.84	3140	5.28	3234	5.73	3324	6.19		
5112	3000	2397	2.43	2509	2.83	2621	3.23	2733	3.61	2842	4.02	2947	4.46	3050	4.92	3149	5.39	3244	5.87	3335	6.34	3423	6.82		
5453	3200	2543	2.90	2648	3.32	2753	3.75	2858	4.16	2962	4.58	3062	5.02	3161	5.50	3256	5.99	3349	6.49	3439	7.00	3526	7.51		
5794	3400	2689	3.41	2788	3.87	2887	4.33	2986	4.76	3084	5.20	3181	5.65	3275	6.14	3367	6.64	3457	7.17	3545	7.70	3630	8.24		

MAXIMUM RPM: 4000

Underlined figures indicate maximum static efficiency.

## LPSF 14

Outlet Area = 2.21 ft<sup>2</sup>      Wheel Dia. = 14.25 in.      Tip Speed = 3.73 x RPM      Max. BHP = 0.318 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" 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	
1546	700	845	0.17	1115	0.35	1347	0.54	1545	0.76																	
1767	800	886	0.21	<u>1129</u>	<u>0.39</u>	1360	0.60	1555	0.83	1728	1.07	1887	1.33													
1988	900	932	0.24	<u>1160</u>	<u>0.44</u>	1369	0.66	1567	0.91	1739	1.17	1896	1.44	2041	1.72	2178	2.01									
2209	1000	980	0.29	<u>1199</u>	<u>0.50</u>	<u>1387</u>	<u>0.73</u>	<u>1577</u>	<u>0.99</u>	<u>1751</u>	<u>1.26</u>	<u>1907</u>	<u>1.55</u>	<u>2050</u>	<u>1.85</u>	<u>2185</u>	<u>2.15</u>	<u>2313</u>	<u>2.47</u>	<u>2434</u>	<u>2.80</u>					
2430	1100	1029	0.33	1240	0.56	<u>1420</u>	<u>0.81</u>	<u>1589</u>	<u>1.07</u>	<u>1762</u>	<u>1.37</u>	<u>1919</u>	<u>1.67</u>	<u>2062</u>	<u>1.98</u>	<u>2195</u>	<u>2.30</u>	<u>2321</u>	<u>2.64</u>	<u>2442</u>	<u>2.98</u>	<u>2557</u>	<u>3.33</u>			
2651	1200	1081	0.39	1284	0.63	1458	0.89	<u>1615</u>	<u>1.17</u>	<u>1772</u>	<u>1.47</u>	1929	1.79	2074	2.12	2207	2.45	2332	2.80	2451	3.16	2565	3.53			
2872	1300	1134	0.45	1331	0.71	1499	0.99	1650	1.28	<u>1794</u>	<u>1.59</u>	<u>1939</u>	<u>1.91</u>	2084	2.26	2220	2.62	2345	2.98	2463	3.35	2575	3.73			
3093	1400	1189	0.52	1379	0.80	1542	1.09	1690	1.40	<u>1826</u>	<u>1.71</u>	<u>1958</u>	<u>2.05</u>	<u>2094</u>	<u>2.40</u>	<u>2229</u>	<u>2.78</u>	<u>2357</u>	<u>3.16</u>	<u>2475</u>	<u>3.55</u>	<u>2588</u>	<u>3.95</u>			
3314	1500	1246	0.61	1428	0.89	1587	1.20	1730	1.52	1863	1.85	<u>1988</u>	<u>2.20</u>	<u>2112</u>	<u>2.56</u>	<u>2239</u>	<u>2.94</u>	2366	3.34	2487	3.75	2600	4.16			
3534	1600	1304	0.70	1478	0.99	1634	1.32	1773	1.65	1903	2.00	2024	2.36	<u>2141</u>	<u>2.73</u>	<u>2257</u>	<u>3.12</u>	<u>2376</u>	<u>3.53</u>	2495	3.95	2610	4.38			
3755	1700	1364	0.80	1530	1.10	1682	1.45	1818	1.80	1944	2.16	2063	2.54	<u>2176</u>	<u>2.92</u>	<u>2285</u>	<u>3.32</u>	<u>2395</u>	<u>3.73</u>	<u>2507</u>	<u>4.17</u>	2619	4.61			
3976	1800	1424	0.92	1583	1.23	1730	1.58	1864	1.95	1987	2.33	2104	2.72	2214	3.12	<u>2320</u>	<u>3.53</u>	<u>2423</u>	<u>3.95</u>	<u>2526</u>	<u>4.39</u>	<u>2632</u>	<u>4.85</u>			
4197	1900	1486	1.04	1638	1.36	1780	1.73	1911	2.12	2032	2.51	2146	2.92	2254	3.33	2358	3.76	<u>2457</u>	<u>4.19</u>	<u>2555</u>	<u>4.64</u>	<u>2653</u>	<u>5.10</u>			
4418	2000	1548	1.18	1693	1.51	1831	1.89	1960	2.29	2078	2.70	2189	3.12	2295	3.55	2397	3.99	2495	4.44	<u>2589</u>	<u>4.90</u>	<u>2682</u>	<u>5.37</u>			
4639	2100	1612	1.33	1750	1.68	1883	2.06	2009	2.48	2126	2.91	2235	3.35	2338	3.79	2438	4.24	2534	4.71	2626	5.18	2716	5.66			
4860	2200	1676	1.49	1808	1.86	1936	2.24	2058	2.67	2174	3.13	2281	3.58	2383	4.04	2480	4.51	2575	4.99	2666	5.47	2754	5.97			
5081	2300	1740	1.66	1866	2.05	1991	2.45	2109	2.88	2222	3.35	2328	3.82	2428	4.30	2524	4.78	2616	5.28	2707	5.78	2793	6.29			
5302	2400	1805	1.85	1926	2.26	2046	2.67	2161	3.11	2272	3.59	2376	4.08	2475	4.57	2569	5.08	2659	5.58	2748	6.10	2834	6.63			
5523	2500	1870	2.06	1986	2.49	2102	2.90	2214	3.35	2322	3.84	2425	4.35	2522	4.86	2615	5.38	2704	5.90	2790	6.43	2875	6.98			
5743	2600	1936	2.28	2047	2.73	2159	3.16	2268	3.61	2373	4.11	2474	4.63	2570	5.16	2662	5.70	2749	6.24	2834	6.78	2917	7.34			
6185	2800	2068	2.77	2172	3.25	2276	3.73	2379	4.20	2478	4.70	2575	5.25	2668	5.81	2758	6.39	2843	6.96	2926	7.54	3006	8.12			
6627	3000	2201	3.32	2298	3.85	2395	4.36	2492	4.86	2587	5.37	2679	5.93	2769	6.52	2855	7.12	2939	7.74	3020	8.35	3098	8.97			
7069	3200	2336	3.96	2427	4.52	2517	5.07	2608	5.60	2699	6.14	2786	6.70	2872	7.31	2956	7.94	3038	8.58	3117	9.24	3193	9.89			
7511	3400	2471	4.68	2556	5.26	2642	5.86	2727	6																	

# Performance Data

## LPSF 16

Outlet Area = 2.77 ft<sup>2</sup>      Wheel Dia. = 15.98 in.      Tip Speed = 4.18 x RPM      Max. BHP = 0.594 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1937	700	734	0.22	982	0.44	1185	0.68	1357	0.94														
2214	800	769	0.26	988	0.49	1197	0.76	1367	1.04	1519	1.34												
2490	900	806	0.30	1010	0.55	1204	0.83	1380	1.14	1529	1.46	1666	1.80										
2767	1000	846	0.35	1042	0.62	1213	0.91	1389	1.24	1542	1.59	1677	1.94	1802	2.31	1920	2.69						
3044	1100	887	0.41	1076	0.70	1236	1.00	1394	1.34	1552	1.72	1690	2.09	1814	2.48	1930	2.88	2040	3.29	2145	3.72		
3320	1200	931	0.47	1112	0.78	1267	1.11	1409	1.46	1557	1.84	1699	2.24	1826	2.66	1942	3.08	2051	3.51	2154	3.95	2253	4.40
3597	1300	976	0.55	1151	0.87	1302	1.22	1436	1.59	1567	1.97	1704	2.40	1836	2.84	1954	3.28	2063	3.73	2166	4.20	2264	4.67
3874	1400	1022	0.63	1191	0.98	1337	1.34	1468	1.73	1590	2.13	1713	2.55	1841	3.01	1963	3.49	2075	3.96	2179	4.45	2276	4.94
4150	1500	1070	0.72	1232	1.09	1374	1.47	1503	1.88	1620	2.30	1733	2.73	1849	3.20	1968	3.69	2083	4.19	2190	4.71	2289	5.22
4427	1600	1119	0.83	1274	1.21	1412	1.61	1538	2.04	1653	2.48	1761	2.93	1867	3.40	1976	3.90	2088	4.42	2197	4.96	2299	5.50
4704	1700	1169	0.95	1317	1.34	1452	1.77	1574	2.21	1688	2.67	1793	3.14	1894	3.63	1994	4.13	2097	4.66	2202	5.22	2305	5.78
4981	1800	1220	1.08	1362	1.49	1493	1.93	1612	2.39	1723	2.88	1828	3.37	1925	3.87	2019	4.38	2114	4.92	2211	5.48	2310	6.06
5257	1900	1272	1.22	1408	1.64	1535	2.11	1652	2.59	1760	3.09	1862	3.60	1959	4.13	2050	4.66	2139	5.20	2229	5.77	2320	6.35
5534	2000	1325	1.38	1455	1.82	1578	2.30	1692	2.80	1798	3.32	1898	3.85	1993	4.39	2083	4.95	2169	5.50	2254	6.08	2339	6.67
5811	2100	1378	1.55	1503	2.01	1621	2.50	1733	3.02	1837	3.56	1935	4.11	2028	4.68	2118	5.25	2202	5.83	2284	6.42	2365	7.03
6087	2200	1431	1.73	1552	2.22	1666	2.72	1775	3.26	1877	3.82	1973	4.39	2065	4.98	2153	5.57	2237	6.17	2317	6.78	2395	7.40
6364	2300	1485	1.93	1601	2.44	1712	2.95	1818	3.51	1918	4.09	2012	4.68	2102	5.28	2188	5.90	2271	6.52	2351	7.16	2428	7.80
6641	2400	1540	2.15	1652	2.68	1759	3.21	1861	3.78	1959	4.38	2052	4.99	2140	5.61	2225	6.24	2307	6.89	2386	7.55	2462	8.21
6917	2500	1595	2.38	1702	2.93	1806	3.48	1906	4.07	2001	4.68	2093	5.31	2180	5.96	2263	6.61	2343	7.27	2421	7.95	2496	8.63
7194	2600	1650	2.63	1754	3.21	1854	3.77	1951	4.37	2044	5.00	2134	5.65	2220	6.32	2301	6.98	2380	7.67	2457	8.37	2531	9.07
7748	2800	1761	3.19	1858	3.81	1953	4.42	2044	5.04	2133	5.70	2219	6.39	2302	7.09	2381	7.80	2458	8.53	2532	9.26	2604	10.00
8301	3000	1873	3.82	1964	4.49	2053	5.14	2140	5.80	2224	6.48	2306	7.20	2386	7.94	2463	8.69	2538	9.45	2610	10.23	2680	11.01
8854	3200	1986	4.54	2072	5.25	2156	5.96	2238	6.65	2319	7.36	2397	8.11	2473	8.87	2548	9.66	2620	10.46	2690	11.27	2759	12.10
9408	3400	2099	5.34	2181	6.10	2260	6.85	2339	7.60	2415	8.34	2490	9.11	2563	9.90	2635	10.73	2705	11.56	2773	12.41	2840	13.28

MAXIMUM RPM: 3200

Underlined figures indicate maximum static efficiency.

## LPSF 18

Outlet Area = 3.49 ft<sup>2</sup>      Wheel Dia. = 17.91 in.      Tip Speed = 4.69 x RPM      Max. BHP = 1.051 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2439	700	656	0.27	876	0.55	1057	0.86	1211	1.19														
2788	800	687	0.32	882	0.61	1069	0.95	1220	1.31	1355	1.69												
3136	900	720	0.38	902	0.69	1075	1.05	1231	1.43	1365	1.84	1486	2.26										
3485	1000	756	0.44	930	0.78	1083	1.15	1239	1.56	1376	2.00	1497	2.44	1608	2.90	1713	3.38						
3833	1100	793	0.51	961	0.88	1104	1.27	1244	1.69	1385	2.16	1508	2.63	1619	3.12	1722	3.62	1820	4.14	1914	4.67		
4182	1200	832	0.60	994	0.98	1132	1.40	1258	1.83	1389	2.32	1517	2.83	1630	3.35	1733	3.87	1830	4.42	1922	4.97	2011	5.54
4530	1300	872	0.69	1028	1.10	1163	1.54	1282	2.00	1399	2.49	1521	3.02	1638	3.57	1744	4.13	1842	4.70	1933	5.28	2020	5.87
4879	1400	914	0.80	1064	1.23	1194	1.69	1311	2.18	1420	2.68	1529	3.22	1643	3.80	1752	4.39	1852	4.99	1945	5.61	2032	6.23
5227	1500	957	0.92	1101	1.37	1227	1.86	1342	2.37	1447	2.90	1547	3.44	1650	4.02	1756	4.64	1859	5.28	1955	5.93	2043	6.58
5576	1600	1001	1.05	1138	1.52	1262	2.04	1374	2.58	1477	3.13	1573	3.69	1667	4.28	1764	4.91	1863	5.56	1960	6.24	2052	6.93
5924	1700	1045	1.20	1177	1.69	1298	2.23	1406	2.79	1508	3.37	1602	3.96	1691	4.57	1780	5.20	1871	5.86	1965	6.56	2057	7.28
6273	1800	1091	1.36	1217	1.87	1334	2.44	1441	3.02	1539	3.62	1632	4.24	1719	4.87	1803	5.52	1887	6.19	1973	6.89	2062	7.64
6621	1900	1138	1.55	1259	2.08	1372	2.66	1476	3.27	1572	3.90	1663	4.54	1749	5.20	1831	5.87	1910	6.55	1990	7.26	2071	8.00
6970	2000	1185	1.75	1301	2.30	1410	2.90	1512	3.53	1606	4.18	1695	4.85	1781	5.55	1861	6.24	1937	6.93	2013	7.66	2088	8.40
7318	2100	1232	1.96	1344	2.54	1449	3.16	1549	3.82	1641	4.49	1729	5.19	1812	5.90	1892	6.63	1967	7.35	2040	8.09	2112	8.85
7667	2200	1280	2.19	1387	2.80	1489	3.43	1586	4.11	1677	4.81	1763	5.54	1844	6.27	1923	7.02	1998	7.78	2069	8.54	2139	9.33
8015	2300	1328	2.44	1432	3.08	1530	3.73	1624	4.43	1714	5.16	1798	5.90	1878	6.66	1955	7.44	2029	8.23	2100	9.02	2168	9.82
8364	2400	1377	2.72	1477	3.38	1572	4.05	1663	4.77	1751	5.52	1834	6.29	1912	7.07	1988	7.88	2060	8.68	2131	9.51	2199	10.35
8712	2500	1426	3.01	1522	3.70	1615	4.40	1703	5.13	1789	5.91	1870	6.70	1947	7.50	2021	8.32	2093	9.17	2162	10.01	2230	10.88
9061	2600	1476	3.33	1568	4.05	1658	4.77	1744	5.52	1827	6.31	1907	7.13	1983	7.96	2056	8.81	2127	9.68	2195	10.55	2261	11.43
9758	2800	1575	4.03	1662	4.82	1746	5.58	1827	6.36	1906	7.19	1983	8.06	2057	8.95	2128	9.84	2196	10.75	2262	11.67	2326	12.61
10455	3000	1676	4.84	1757	5.68	1836	6.50	1913	7.32	1988	8.18	2061	9.08	2132	10.01	2201	10.96	2268	11.93	2332	12.90	2394	13.88
11152	3200	1777	5.75	1853	6.64	1928	7.53	2001	8.40	2073	9.30	2142	10.23	2210	11.19	2277	12.19	2341	13.20	2404	14.22	2465	15.26
11849	3400	1878	6.76	1951	7.72	2022	8.68	2091	9.60	2159	10.53	2226	11.50	2291	12.50	2355	13.54	2417	14.59	2478	15.66	2538	16.76

MAXIMUM RPM: 2800

Underlined figures indicate maximum static efficiency.

# Performance Data

## LPSF 20

Outlet Area = 4.38 ft<sup>2</sup>

Wheel Dia. = 20.04 in.

Tip Speed = 5.25 x RPM

Max. BHP = 1.84 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3067	700	587	0.34	783	0.69	946	1.08	1083	1.49														
3505	800	615	0.40	<u>789</u>	<u>0.77</u>	956	1.20	1091	1.64	1212	2.12												
3943	900	645	0.48	<u>807</u>	<u>0.87</u>	961	1.32	1101	1.80	1220	2.31	1329	2.84	1431	3.39								
4381	1000	677	0.56	<u>833</u>	<u>0.98</u>	<u>968</u>	<u>1.44</u>	1108	1.97	1231	2.51	1338	3.07	1438	3.65	1532	4.25						
4819	1100	711	0.65	861	1.11	<u>988</u>	<u>1.59</u>	<u>1113</u>	<u>2.13</u>	1238	2.71	1348	3.31	1448	3.92	1540	4.55	1628	5.21	1712	5.88		
5257	1200	745	0.75	890	1.24	1013	1.76	<u>1126</u>	<u>2.31</u>	1242	2.91	1356	3.55	1458	4.21	1550	4.87	1637	5.55	1719	6.25	1798	6.96
5695	1300	782	0.87	921	1.39	1041	1.94	<u>1148</u>	<u>2.51</u>	<u>1252</u>	<u>3.13</u>	1360	3.79	1465	4.49	1560	5.19	1647	5.91	1729	6.64	1807	7.38
6133	1400	819	1.00	953	1.55	1069	2.13	1174	2.74	1270	3.37	1368	4.04	1469	4.77	1566	5.51	1656	6.27	1739	7.04	1817	7.82
6572	1500	858	1.16	986	1.73	1099	2.34	1202	2.99	1295	3.64	<u>1385</u>	<u>4.33</u>	<u>1476</u>	<u>5.06</u>	1570	5.83	1662	6.63	1748	7.45	1827	8.26
7010	1600	897	1.33	1020	1.92	1130	2.56	1230	3.24	1322	3.93	1408	4.65	<u>1491</u>	<u>5.38</u>	<u>1578</u>	<u>6.17</u>	1666	6.99	1753	7.85	1835	8.71
7448	1700	938	1.52	1055	2.13	1162	2.81	1260	3.52	1350	4.24	1434	4.98	<u>1513</u>	<u>5.74</u>	<u>1592</u>	<u>6.53</u>	<u>1674</u>	<u>7.38</u>	1757	8.25	1839	9.15
7886	1800	979	1.73	1091	2.37	1195	3.07	1290	3.80	1378	4.56	1461	5.34	1539	6.13	<u>1614</u>	<u>6.94</u>	<u>1688</u>	<u>7.78</u>	1765	8.67	1843	9.58
8324	1900	1021	1.96	1128	2.62	1229	3.35	1322	4.12	1408	4.91	1489	5.71	1566	6.54	1639	7.38	<u>1710</u>	<u>8.25</u>	<u>1780</u>	<u>9.12</u>	<u>1853</u>	<u>10.06</u>
8762	2000	1063	2.21	1166	2.90	1263	3.65	1354	4.45	1439	5.28	1518	6.11	1594	6.97	1666	7.85	1734	8.73	<u>1801</u>	<u>9.63</u>	<u>1869</u>	<u>10.58</u>
9200	2100	1105	2.47	1205	3.21	1299	3.98	1387	4.80	1470	5.66	1548	6.53	1622	7.42	1694	8.34	1761	9.25	1826	10.18	<u>1890</u>	<u>11.13</u>
9638	2200	1149	2.78	1244	3.53	1335	4.33	1421	5.18	1502	6.06	1579	6.97	1652	7.90	1721	8.83	1789	9.80	1852	10.74	1914	11.72
10076	2300	1192	3.09	1284	3.89	1372	4.71	1456	5.59	1535	6.50	1610	7.43	1682	8.39	1750	9.36	1817	10.36	1880	11.35	1941	12.36
10514	2400	1236	3.44	1324	4.27	1409	5.11	1491	6.02	1569	6.97	1643	7.93	1713	8.91	1780	9.91	1845	10.93	1908	11.97	1968	13.00
10953	2500	1280	3.81	1365	4.68	1448	5.56	1527	6.48	1603	7.45	1675	8.44	1744	9.45	1811	10.50	1874	11.54	1936	12.61	1996	13.68
11391	2600	1324	4.21	1407	5.13	1487	6.03	1563	6.96	1637	7.95	1709	8.99	1777	10.04	1842	11.10	1905	12.19	1965	13.27	2024	14.38
12267	2800	1414	5.11	1491	6.09	1566	7.06	1638	8.03	1709	9.08	1777	10.16	1843	11.28	1906	12.40	1967	13.54	2026	14.70	2083	15.87
13143	3000	1504	6.12	1576	7.18	1647	8.22	1716	9.26	1782	10.33	1848	11.47	1911	12.64	1972	13.82	2031	15.02	2089	16.25	2144	17.47
14019	3200	1595	7.28	1663	8.41	1730	9.53	1795	10.63	1858	11.73	1920	12.90	1981	14.13	2040	15.37	2098	16.65	2154	17.93	2208	19.22
14895	3400	1686	8.57	1750	9.76	1813	10.96	1875	12.13	1936	13.31	1995	14.51	2053	15.77	2110	17.06	2166	18.40	2220	19.74	2273	21.10

MAXIMUM RPM: 2500

Underlined figures indicate maximum static efficiency.

## LPSF 22

Outlet Area = 5.50 ft<sup>2</sup>

Wheel Dia. = 22.44 in.

Tip Speed = 5.87 x RPM

Max. BHP = 3.24 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3852	700	524	0.43	699	0.86	844	1.35	967	1.87														
4402	800	549	0.51	<u>704</u>	<u>0.97</u>	853	1.50	974	2.06	1082	2.66												
4953	900	576	0.60	<u>721</u>	<u>1.09</u>	858	1.65	983	2.26	1090	2.90	1187	3.56	1278	4.25								
5503	1000	605	0.70	744	1.23	<u>865</u>	<u>1.81</u>	989	2.46	1099	3.15	1195	3.85	1284	4.58	1368	5.33						
6053	1100	635	0.81	769	1.39	<u>882</u>	<u>2.00</u>	<u>994</u>	<u>2.67</u>	1106	3.41	1204	4.15	1293	4.92	1375	5.71	1453	6.52	1529	7.38		
6604	1200	666	0.95	795	1.56	905	2.21	<u>1005</u>	<u>2.89</u>	1109	3.65	1211	4.46	1302	5.28	1384	6.11	1462	6.97	1535	7.84	1606	8.75
7154	1300	699	1.10	823	1.74	930	2.44	<u>1025</u>	<u>3.15</u>	<u>1118</u>	<u>3.93</u>	1214	4.75	1308	5.63	1393	6.52	1471	7.42	1544	8.33	1613	9.26
7704	1400	732	1.26	852	1.95	955	2.68	1049	3.44	1135	4.23	1222	5.08	1312	5.99	1399	6.93	1479	7.87	1553	8.84	1623	9.82
8254	1500	767	1.46	881	2.17	982	2.94	1074	3.75	1157	4.57	<u>1237</u>	<u>5.44</u>	<u>1318</u>	<u>6.35</u>	1402	7.32	1484	8.33	1561	9.35	1632	10.38
8805	1600	802	1.67	912	2.42	1010	3.23	1099	4.07	1181	4.94	<u>1257</u>	<u>5.83</u>	<u>1332</u>	<u>6.76</u>	<u>1409</u>	<u>7.75</u>	1488	8.79	1565	9.85	1638	10.92
9355	1700	838	1.91	943	2.68	1039	3.53	1125	4.41	1206	5.33	1281	6.26	<u>1352</u>	<u>7.21</u>	<u>1422</u>	<u>8.20</u>	<u>1495</u>	<u>9.26</u>	1569	10.36	1642	11.48
9905	1800	875	2.17	975	2.97	1068	3.86	1153	4.78	1232	5.74	1306	6.72	1375	7.71	<u>1442</u>	<u>8.73</u>	<u>1508</u>	<u>9.77</u>	1576	10.88	1646	12.03
10456	1900	912	2.46	1009	3.30	1098	4.21	1181	5.17	1258	6.17	1331	7.19	1399	8.22	1464	9.27	<u>1527</u>	<u>10.35</u>	<u>1590</u>	<u>11.46</u>	<u>1655</u>	<u>12.64</u>
11006	2000	950	2.77	1042	3.64	1129	4.59	1210	5.59	1286	6.63	1357	7.69	1424	8.76	1488	9.85	1549	10.96	<u>1609</u>	<u>12.10</u>	<u>1669</u>	<u>13.28</u>
11556	2100	988	3.12	1077	4.03	1161	5.01	1240	6.05	1314	7.12	1383	8.20	1450	9.34	1513	10.47	1573	11.61	1631	12.78	<u>1688</u>	<u>13.98</u>
12107	2200	1027	3.49	1112	4.45	1193	5.45	1270	6.52	1343	7.64	1411	8.77	1476	9.93	1538	11.10	1598	12.30	1655	13.51	1710	14.73
12657	2300	1066	3.90	1148	4.90	1226	5.92	1301	7.03	1372	8.18	1439	9.35	1503	10.55	1564	11.77	1623	13.01	1680	14.27	1734	15.53
13207	2400	1105	4.33	1184	5.38	1260	6.44	1332	7.56	1402	8.76	1468	9.97	1530	11.19	1591	12.47	1648	13.73	1705	15.05	1759	16.36
13757	2500	1145	4.81	1221	5.90	1294	6.98	1365	8.15	1432	9.36	1497	10.61	1559	11.89	1618	13.19	1675	14.51	1730	15.85	1784	17.22
14308	2600	1184	5.30	1258	6.45	1329	7.58	1397	8.75	1463	10.00	1527	11.30	1588	12.62	1646	13.95	1702	15.31	1756	16.69	1809	18.09
15408	2800	1264	6.43	1333	7.67	1400	8.88	1465	10.12	1527	11.41	1588	12.78	1647	14.18	1703	15.58	1758	17.03	1810	18.47	1861	19.94
16509	3000	1345	7.71	1409	9.03	1472	10.34	1534	11.65	1593	12.99	1651	14.41	1708	15.89	1763	17.39	1815	18.88	1867	20.44	1916	21.97
17610	3200	1426	9.16	1487	10.58	1546	11.98	1605	13.38	1661	14.77	1717	16.26	1771	17.78	1824	19.35	1875	20.93	1925	22.55	1973	24.16
18710	3400	1508	0.80	1565	12.30	1621	13.79	1677	15.28	1731	16.76	1784	18.27	1835	19.83	1886	21.47	1936	23.14	1984	24.81	2032	26.55

MAXIMUM RPM: 2400

Underlined figures indicate maximum static efficiency.

# Performance Data

## LPSF 25

Outlet Area = 7.00 ft<sup>2</sup>      Wheel Dia. = 25.16 in.      Tip Speed = 6.59 x RPM      Max. BHP = 5.67 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4900	700	466	0.52	608	1.02	746	1.61	857	2.23														
5600	800	489	0.63	615	1.15	747	1.78	861	2.46	959	3.17	1047	3.91										
6300	900	513	0.74	637	1.32	745	1.96	863	2.69	963	3.45	1051	4.24	1132	5.06								
7000	1000	540	0.88	661	1.50	757	2.16	859	2.91	965	3.74	1056	4.60	1137	5.47	1212	6.36	1283	7.28				
7700	1100	568	1.03	684	1.70	779	2.41	865	3.17	961	4.02	1057	4.94	1141	5.87	1217	6.82	1287	7.78	1354	8.78	1418	9.80
8400	1200	598	1.20	707	1.92	803	2.68	883	3.46	964	4.33	1053	5.27	1142	6.28	1220	7.27	1292	8.31	1359	9.35	1422	10.41
9100	1300	630	1.41	733	2.17	826	2.97	907	3.82	979	4.68	1054	5.62	1137	6.65	1220	7.74	1295	8.83	1363	9.93	1427	11.05
9800	1400	663	1.65	760	2.44	850	3.30	931	4.19	1001	5.09	1068	6.05	1139	7.08	1216	8.19	1293	9.34	1365	10.51	1431	11.70
10500	1500	697	1.92	788	2.73	874	3.64	954	4.58	1025	5.54	1089	6.53	1151	7.55	1217	8.64	1289	9.84	1362	11.08	1431	12.32
11200	1600	731	2.21	817	3.06	900	4.01	977	5.00	1049	6.02	1113	7.06	1171	8.10	1230	9.20	1292	10.38	1359	11.64	1427	12.94
11900	1700	766	2.55	847	3.42	926	4.40	1001	5.45	1072	6.52	1137	7.61	1195	8.71	1250	9.83	1305	11.00	1363	12.24	1425	13.56
12600	1800	802	2.92	878	3.81	954	4.84	1026	5.93	1095	7.04	1160	8.19	1219	9.34	1273	10.51	1325	11.71	1377	12.94	1431	14.24
13300	1900	838	3.32	911	4.27	983	5.32	1053	6.45	1119	7.61	1183	8.80	1243	10.02	1297	11.23	1348	12.47	1397	13.73	1447	15.05
14000	2000	874	3.76	944	4.76	1012	5.82	1080	7.00	1144	8.21	1206	9.44	1266	10.72	1321	11.98	1372	13.27	1420	14.57	1467	15.91
14700	2100	911	4.25	978	5.30	1043	6.38	1108	7.59	1171	8.86	1231	10.15	1289	11.45	1344	12.77	1397	14.14	1445	15.49	1490	16.84
15400	2200	948	4.78	1012	5.87	1074	6.98	1136	8.21	1197	9.52	1256	10.87	1313	12.23	1367	13.59	1420	15.01	1469	16.42	1515	17.85
16100	2300	985	5.35	1047	6.50	1107	7.66	1166	8.89	1225	10.24	1282	11.63	1337	13.03	1391	14.47	1443	15.93	1492	17.38	1539	18.87
16800	2400	1022	5.96	1082	7.18	1140	8.38	1196	9.62	1253	10.99	1309	12.44	1363	13.91	1415	15.38	1466	16.88	1515	18.39	1562	19.92
17500	2500	1059	6.62	1118	7.91	1173	9.13	1228	10.43	1282	11.80	1336	13.28	1389	14.80	1440	16.33	1490	17.89	1538	19.43	1585	21.02
18200	2600	1097	7.34	1154	8.69	1207	9.96	1260	11.28	1312	12.68	1365	14.20	1416	15.75	1466	17.34	1514	18.91	1562	20.54	1608	22.16
19600	2800	1173	8.95	1226	10.39	1277	11.80	1326	13.18	1374	14.61	1423	16.16	1472	17.81	1519	19.46	1566	21.18	1611	22.88	1656	24.62
21000	3000	1249	10.77	1299	12.32	1347	13.84	1393	15.31	1439	16.83	1484	18.39	1530	20.08	1575	21.82	1620	23.63	1663	25.41	1706	27.26
22400	3200	1326	12.85	1373	14.50	1419	16.15	1463	17.75	1506	19.33	1548	20.92	1591	22.65	1633	24.41	1676	26.30	1718	28.21	1759	30.13
23800	3400	1403	15.18	1447	16.92	1491	18.69	1533	20.41	1574	22.09	1614	23.77	1654	25.51	1694	27.33	1734	29.23	1774	31.20	1814	33.24

MAXIMUM RPM: 2000

Underlined figures indicate maximum static efficiency.

## LPSF 28

Outlet Area = 8.68 ft<sup>2</sup>      Wheel Dia. = 28.27 in.      Tip Speed = 7.40 x RPM      Max. BHP = 10.15 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6076	700	412	0.65	541	1.27	664	2.01	762	2.78														
6944	800	432	0.77	545	1.42	665	2.22	766	3.07	853	3.96												
7812	900	453	0.91	563	1.62	662	2.43	768	3.35	857	4.31	935	5.29	1007	6.32								
8680	1000	476	1.07	584	1.85	671	2.68	765	3.63	859	4.66	939	5.72	1011	6.81	1078	7.93	1141	9.08				
9548	1100	501	1.26	604	2.09	689	2.97	768	3.93	856	5.01	941	6.15	1015	7.31	1082	8.49	1145	9.71	1205	10.97	1262	12.25
10416	1200	527	1.47	625	2.36	710	3.31	782	4.29	856	5.37	938	6.57	1016	7.80	1086	9.08	1149	10.35	1208	11.64	1265	12.99
11284	1300	554	1.72	647	2.66	731	3.67	802	4.71	867	5.79	937	6.99	1013	8.29	1086	9.63	1152	10.99	1212	12.36	1269	13.76
12152	1400	582	2.00	670	2.99	751	4.06	823	5.16	886	6.30	946	7.48	1012	8.79	1083	10.20	1151	11.62	1215	13.09	1273	14.57
13020	1500	612	2.33	694	3.34	772	4.48	844	5.65	907	6.85	964	8.08	1021	9.37	1082	10.75	1148	12.26	1213	13.79	1274	15.34
13888	1600	642	2.69	719	3.73	794	4.93	864	6.16	928	7.43	984	8.71	1037	10.03	1091	11.43	1148	12.89	1209	14.46	1271	16.11
14756	1700	673	3.09	745	4.16	817	5.41	884	6.69	948	8.04	1005	9.38	1057	10.76	1107	12.18	1157	13.64	1211	15.22	1268	16.87
15624	1800	703	3.52	773	4.66	841	5.93	906	7.29	968	8.68	1026	10.11	1078	11.54	1126	12.98	1173	14.48	1221	16.06	1271	17.69
16492	1900	735	4.02	801	5.20	866	6.50	929	7.92	989	9.37	1046	10.85	1099	12.35	1147	13.86	1193	15.43	1237	16.99	1282	18.63
17360	2000	766	4.54	830	5.79	891	7.10	952	8.57	1010	10.08	1066	11.63	1119	13.20	1169	14.82	1214	16.41	1257	18.04	1299	19.70
18228	2100	798	5.12	859	6.43	918	7.79	976	9.28	1033	10.87	1087	12.47	1139	14.09	1189	15.77	1235	17.44	1278	19.14	1318	20.80
19096	2200	830	5.75	889	7.13	945	8.51	1001	10.05	1056	11.68	1109	13.36	1160	15.05	1209	16.77	1255	18.49	1299	20.27	1339	22.00
19964	2300	863	6.45	919	7.88	973	9.31	1027	10.88	1080	12.55	1131	14.27	1181	16.04	1229	17.81	1275	19.60	1320	21.47	1361	23.30
20832	2400	895	7.18	950	8.70	1002	10.18	1053	11.75	1104	13.45	1155	15.28	1203	17.08	1250	18.92	1296	20.80	1340	22.69	1381	24.55
21700	2500	928	7.99	981	9.58	1031	11.11	1080	12.70	1130	14.47	1178	16.28	1226	18.19	1271	20.05	1316	21.99	1360	23.96	1402	25.94
22568	2600	961	8.85	1012	10.50	1060	12.08	1108	13.73	1155	15.48	1203	17.39	1249	19.32	1294	21.30	1337	23.25	1380	25.27	1422	27.33
24304	2800	1027	10.77	1075	12.56	1121	14.30	1165	16.01	1209	17.81	1253	19.75	1297	21.79	1340	23.88	1382	26.01	1422	28.09	1463	30.30
26040	3000	1093	12.94	1138	14.85	1182	16.76	1224	18.60	1265	20.46	1306	22.43	1347	24.52	1388	26.71	1428	28.93	1468	31.24	1506	33.50
27776	3200	1160	15.42	1203	17.49	1244	19.51	1284	21.49	1323	23.46	1361	25.46	1400	27.62	1438	29.83	1477	32.20	1515	34.59	1552	37.00
29512	3400	1228	18.25	1268	20.41	1307	22.57	1345	24.70	1382	26.78	1418	28.86	1454	31.02	1491	33.36	1527	35.72	1563	38.18	1599	40.72

MAXIMUM RPM: 1700

Underlined figures indicate maximum static efficiency.

# Performance Data

## LPSF 32

Outlet Area = 10.92 ft<sup>2</sup>      Wheel Dia. = 31.69 in.      Tip Speed = 8.30 x RPM      Max. BHP = 18.00 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7640	700	367	0.81	483	1.60	592	2.52	680	3.51														
8732	800	385	0.97	486	1.79	593	2.79	683	3.85	760	4.96												
9823	900	404	1.14	502	2.04	591	3.06	685	4.21	764	5.41	834	6.66	898	7.94								
10915	1000	425	1.35	521	2.32	598	3.36	682	4.55	766	5.86	837	7.18	902	8.57	961	9.95	1018	11.43				
12006	1100	447	1.58	539	2.63	615	3.75	685	4.94	764	6.31	839	7.72	905	9.18	965	10.67	1021	12.20	1074	13.76	1125	15.38
13098	1200	470	1.85	557	2.97	634	4.17	698	5.41	764	6.76	837	8.27	907	9.83	968	11.39	1025	13.02	1078	14.66	1128	16.32
14189	1300	494	2.16	577	3.35	652	4.62	715	5.91	774	7.30	836	8.79	903	10.41	969	12.12	1028	13.84	1081	15.54	1132	17.31
15281	1400	520	2.52	598	3.76	670	5.10	734	6.49	790	7.92	844	9.41	903	11.06	966	12.83	1027	14.62	1084	16.48	1135	18.30
16372	1500	546	2.92	619	4.20	689	5.64	753	7.11	809	8.62	860	10.16	910	11.76	965	13.52	1024	15.41	1082	17.35	1136	19.28
17464	1600	573	3.38	642	4.70	708	6.19	771	7.76	828	9.35	878	10.96	925	12.61	973	14.36	1024	16.22	1079	18.22	1134	20.28
18555	1700	600	3.88	665	5.24	729	6.81	789	8.43	845	10.08	897	11.82	943	13.54	987	15.29	1032	17.15	1080	19.12	1131	21.21
19647	1800	628	4.45	689	5.84	750	7.45	808	9.16	863	10.90	915	12.70	962	14.52	1005	16.36	1046	18.20	1089	20.19	1134	22.27
20738	1900	656	5.06	714	6.52	772	8.16	829	9.97	882	11.78	933	13.64	980	15.52	1023	17.42	1064	19.39	1104	21.40	1144	23.46
21830	2000	684	5.73	740	7.27	795	8.94	850	10.81	901	12.68	951	14.63	998	16.59	1042	18.59	1083	20.65	1121	22.67	1159	24.79
22921	2100	712	6.45	766	8.07	819	9.80	871	11.68	921	13.65	970	15.70	1016	17.72	1060	19.79	1102	21.95	1140	24.06	1176	26.18
24013	2200	741	7.25	793	8.97	843	10.70	893	12.63	942	14.69	989	16.79	1035	18.94	1078	21.06	1120	23.28	1159	25.50	1195	27.71
25104	2300	770	8.12	820	9.92	868	11.71	916	13.67	963	15.76	1009	17.95	1053	20.14	1096	22.37	1138	24.68	1177	26.96	1214	29.29
26196	2400	799	9.05	847	10.93	894	12.81	939	14.76	985	16.93	1030	19.19	1073	21.47	1115	23.79	1156	26.15	1195	28.51	1232	30.89
27287	2500	828	10.05	875	12.04	920	13.98	964	16.00	1008	18.19	1051	20.48	1093	22.83	1134	25.23	1174	27.65	1213	30.12	1250	32.58
28379	2600	857	11.12	903	13.22	946	15.21	988	17.25	1031	19.51	1073	21.86	1114	24.29	1154	26.77	1193	29.27	1231	31.78	1268	34.34
30562	2800	916	13.53	959	15.79	1000	17.98	1039	20.12	1079	22.43	1118	24.85	1157	27.40	1195	30.01	1233	32.72	1269	35.37	1305	38.09
32745	3000	976	16.32	1016	18.72	1055	21.11	1092	23.40	1128	25.70	1165	28.21	1202	30.87	1238	33.58	1274	36.40	1309	39.24	1343	42.08
34928	3200	1035	19.40	1073	21.98	1110	24.55	1145	27.00	1180	29.49	1214	32.00	1249	34.74	1283	37.53	1318	40.53	1351	43.46	1384	46.48
37111	3400	1095	22.92	1131	25.66	1166	28.39	1200	31.07	1233	33.69	1265	36.29	1298	39.09	1330	41.94	1362	44.91	1395	48.09	1427	51.28

MAXIMUM RPM: 1600

Underlined figures indicate maximum static efficiency.

## LPSF 36

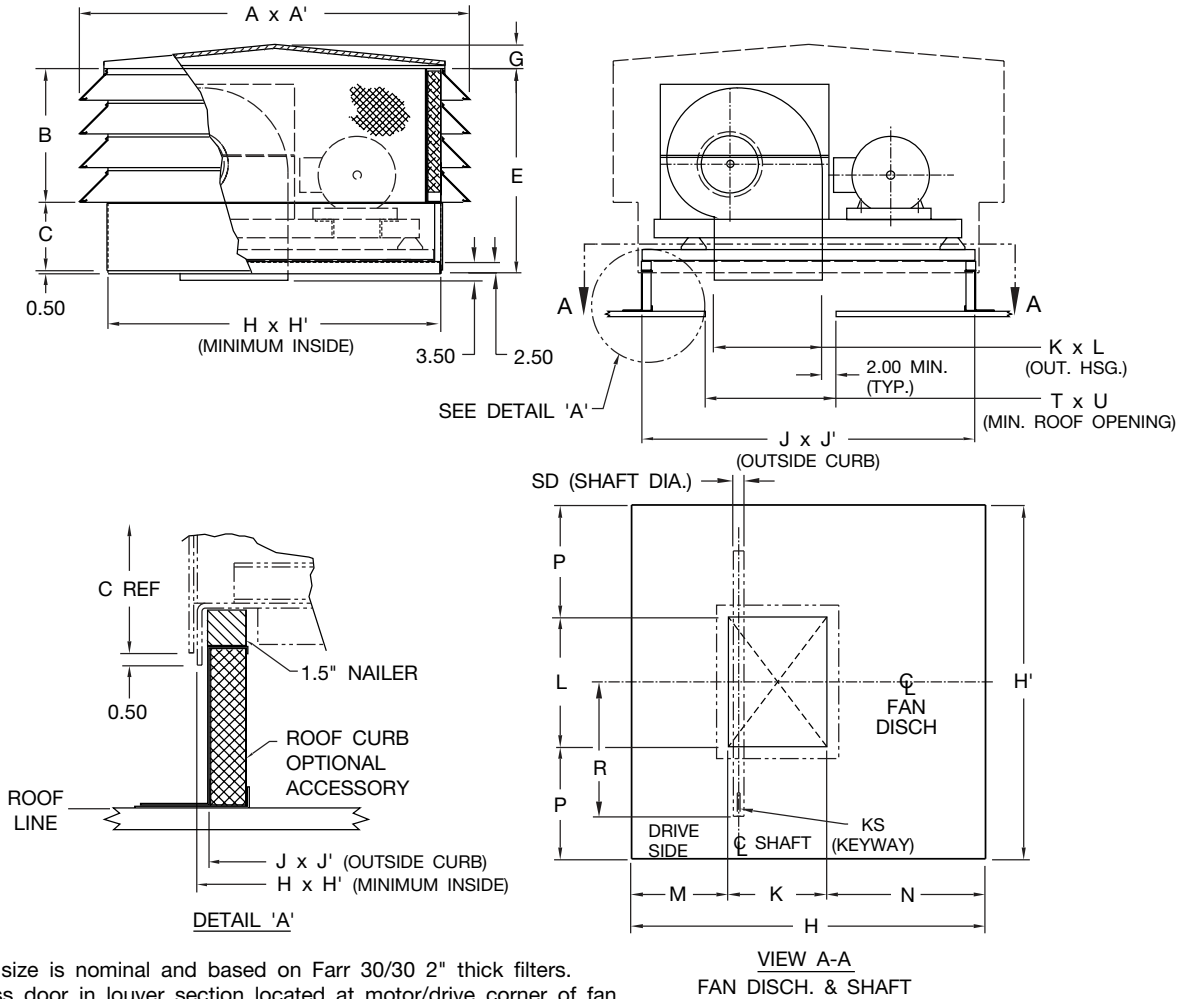
Outlet Area = 13.74 ft<sup>2</sup>      Wheel Dia. = 35.55 in.      Tip Speed = 9.31 x RPM      Max. BHP = 31.90 (RPM÷1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		5.5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9621	700	327	1.02	430	2.01	528	3.18	606	4.41														
10995	800	344	1.22	434	2.26	529	3.52	609	4.85	678	6.25												
12370	900	360	1.44	448	2.57	527	3.85	611	5.31	681	6.81	743	8.36	801	10.01								
13744	1000	379	1.70	465	2.94	533	4.23	608	5.73	683	7.38	747	9.07	804	10.78	857	12.54	908	14.41				
15118	1100	398	1.99	481	3.32	548	4.71	611	6.23	681	7.94	748	9.72	807	11.57	860	13.42	910	15.35	958	17.35	1003	19.36
16493	1200	419	2.33	497	3.74	565	5.24	622	6.80	681	8.51	746	10.40	808	12.35	863	14.34	914	16.40	961	18.45	1006	20.57
17867	1300	441	2.72	515	4.23	581	5.80	638	7.46	690	9.19	745	11.06	805	13.10	864	15.27	916	17.40	964	19.58	1009	21.78
19242	1400	463	3.16	533	4.73	597	6.41	655	8.19	704	9.95	753	11.87	805	13.92	861	16.14	916	18.44	966	20.72	1012	23.05
20616	1500	487	3.69	552	5.29	614	7.09	671	8.94	721	10.83	766	12.76	812	14.84	861	17.06	913	19.42	964	21.80	1013	24.29
21990	1600	511	4.26	572	5.91	632	7.82	687	9.75	738	11.76	783	13.81	825	15.89	867	18.05	913	20.42	962	22.95	1011	25.53
23365	1700	535	4.89	593	6.60	650	8.57	704	10.64	754	12.73	800	14.89	841	17.06	880	19.26	920	21.58	963	24.09	1008	26.68
24739	1800	560	5.60	615	7.38	669	9.40	721	11.56	770	13.75	816	16.00	858	18.30	896	20.59	933	22.94	971	25.42	1011	28.04
26114	1900	585	6.38	637	8.22	689	10.30	739	12.54	786	14.81	832	17.19	874	19.55	913	22.00	949	24.44	984	26.92	1020	29.54
27488	2000	610	7.21	660	9.16	709	11.26	758	13.62	804	16.01	848	18.42	890	20.90	930	23.48	965	25.94	999	28.50	1033	31.17
28862	2100	635	8.12	684	10.21	730	12.32	777	14.73	822	17.24	865	19.77	906	22.32	946	24.99	982	27.59	1016	30.26	1049	33.00
30237	2200	661	9.14	707	11.28	752	13.50	797	15.95	840	18.50	882	21.15	923	23.86	962	26.58	999	29.34	1033	32.07	1065	34.84
31611	2300	687	10.24	731	12.48	774	14.74	817	17.23	859	19.87	900	22.62	939	25.36	978	28.24	1015	31.11	1050	34.00	1082	36.84
32986	2400	712	11.37	756	13.80	797	16.12	838	18.63	879	21.36	919	24.21	957	27.06	994	29.93	1031	32.95	1066	35.95	1099	38.94
34360	2500	739	12.69	780	15.15	820	17.58	859	20.10	899	22.92	937	25.77	975	28.79	1011	31.76	1047	34.84	1082	37.98	1115	41.07
35734	2600	765	14.05	805	16.63	844	19.19	881	21.72	919	24.54	957	27.55	994	30.65	1029	33.71	1064	36.88	1098	40.06	1131	43.28
38483	2800	817	17.05	855	19.87	892	22.67	927	25.37	962	28.24	997	31.30	1032	34.54	1066	37.83	1099	41.16	1132	44.60	1163	47.89
41232	3000	870	20.52	906	23.57	941	26.60	974	29.49	1006	32.38	1039	35.54	1072	38.89	1104	42.29	1136	45.84	1168	49.52	1198	53.06
43981	3200	924	24.52	957	27.69	990	30.93	1022	34.09	1053	37.22	1083	40.36	1114	43.78	1145	47.38	1175	51.01	1205	54.77	1235	58.66
46730	3400	977	28.91	100	32.36	104	35.78	1070	39.12	1100	42.49	1129	45.83	1157	49.17	1186	52.82	1215	56.62	1244	60.57	1272	64.50

MAXIMUM RPM: 1300

Underlined figures indicate maximum static efficiency.

# Dimensional Data



**Notes:**

1. Filter size is nominal and based on Farr 30/30 2" thick filters.
2. Access door in louver section located at motor/drive corner of fan.
3. Sizes 32 and 36 ship in parts to be assembled on site.

FAN SIZE	A	A'	B	C	E	MAX. FR	G	H	H'	J	J'	K x L
12	68.00	68.00	24.50	7.50	32.50	215T	2.00	61.00	61.00	59.50	59.50	15.94 x 15.94
14	70.50	70.50	24.50	11.75	36.75	215T	2.00	63.50	63.50	62.00	62.00	17.88 x 17.75
16	77.50	77.50	24.50	13.75	38.75	256T	2.00	70.50	70.50	69.00	69.00	20.00 x 20.00
18	81.00	81.00	31.50	11.88	43.88	256T	2.00	74.00	74.00	72.50	72.50	22.44 x 22.44
20	85.00	85.00	31.50	14.88	46.88	256T	2.00	78.00	78.00	76.50	76.50	25.13 x 25.13
22	91.50	91.50	35.00	18.00	53.50	286T	2.00	84.50	84.50	83.00	83.00	28.19 x 28.19
25	96.50	96.50	42.00	13.00	55.50	286T	2.00	89.50	89.50	88.00	88.00	31.56 x 31.56
28	105.50	98.50	42.00	18.25	60.75	326T	2.00	98.50	91.50	97.00	90.00	35.38 x 35.38
32	110.50	98.50	49.00	15.25	64.75	326T	2.00	103.50	91.50	102.00	90.00	39.69 x 39.69
36	126.50	118.50	49.00	21.50	71.00	365T	6.00	119.50	111.50	118.00	110.00	44.50 x 44.50

FAN SIZE	KS	M	N	P	R	SD	T x U	FILTER (QTY) SIZE
12	.25 x .13	16.31	28.75	22.56	12.25	1.187	19.69 x 19.88	(12) 18 x 25
14	.38 x .19	16.88	28.75	22.88	13.50	1.437	21.81 x 21.81	(12) 20 x 25
16	.38 x .19	18.00	32.50	25.25	14.75	1.437	23.94 x 23.94	(16) 16 x 25
18	.38 x .19	18.44	33.13	25.81	16.75	1.500	26.38 x 26.38	(16) 20 x 16 & (8) 25 x 16
20	.38 x .19	20.38	32.50	26.44	18.13	1.500	29.13 x 29.13	(12) 24 x 20 & (12) 24 x 12
22	.50 x .25	21.94	34.38	28.19	21.13	1.937	32.25 x 32.13	(32) 20 x 18
25	.50 x .25	24.19	33.75	29.00	22.75	1.937	35.56 x 35.56	(16) 20 x 24 & (16) 20 x 18
28	.50 x .25	25.63	37.50	28.06	24.75	1.937	39.38 x 39.38	(8) 20 x 18, 20 x 24, 24 x 18, 24 x 24
32	.50 x .25	26.94	36.88	25.94	26.75	1.937	43.81 x 43.94	(8) 20 x 18, 25 x 18 & (16) 20 x 16, 25 x 16
36	.63 x .31	31.25	43.75	33.50	29.88	2.437	48.69 x 48.75	(20) 24 x 24 & (16) 20 x 24

Dimensions are not to be used for construction.

# Typical Specifications

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Louvered Penthouse Supply Fans shall be Type LPSF as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

**PERFORMANCE** — Fans shall be tested in accordance with AMCA 211 test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels.

**CONSTRUCTION** — Hoods shall be louvered penthouses constructed of all aluminum welded structural framing and heavy alloy blade extrusions with mitered corners. Low profile cover is pitched to ensure water runoff. Roof curb cap shall be aluminum with support structure and fan constructed of steel. All units shall be equipped with re-usable 2 inch aluminum filters.

**FAN HOUSING** — Fan housings shall have galvanized lock seam construction. Housings shall be suitably braced to minimize vibration or pulsation. Fan housings shall have spun, aerodynamically designed, inlet cones or inlet venturies for smooth airflow into the wheels.

**WHEELS** — All fan wheels shall have wheel cones or shrouds, providing stable flow and high rigidity. Wheels shall be of the non-overloading type. Backward curved wheels shall be single thickness plate type, continuously welded to the rim and back plate. Blades shall be designed for maximum efficiency and quiet operation. All wheels shall be statically and dynamically balanced. The complete fan assembly shall be test balanced at the operating speed prior to shipment.

**SHAFTS** — Fan shafts shall be manufactured of AISI 1040 or 1045 cold rolled steel, accurately turned, ground, polished, and ring gauged for accuracy. Drive extensions shall be provided at both ends for mounting flexibility.

**BEARINGS** — Bearings shall be pillow block, heavy-duty, anti-friction, self-aligning, grease lubricated, ball or roller type. Each fan's bearings shall be sized with a minimum average life, per AFBMA, in excess of 200,000 hours when operating at the maximum RPM.

**DRIVES** — Cast-iron, fixed pitch motor sheaves are recommended for applications 15 HP and larger; variable pitch sheaves may be used for applications of less than 15 HP. Drives should be selected to provide a minimum 1.5 service factor for 30 HP and larger motors.

**FINISH AND COATING** — Fans shall have galvanized housings. Bearing supports shall be painted with a zinc rich coating. Hoods and structural framing shall be constructed of aluminum.

**FACTORY RUN TEST** — All fans prior to shipment shall be completely assembled and test run as a unit at operating speed or maximum RPM allowed for the particular construction type. Each wheel shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

**ACCESSORIES** — When specified, fans shall be supplied with backdraft dampers, fan inlet screens, bird screens, disconnect switches, roof curbs, etc., shall be provided by Twin City Fan & Blower to maintain one source responsibility.

**SUBMITTALS** — Submittals for approval of equipment shall include copies of outline drawing and performance curves showing the operating point.

# Unlimited Options...

## Commercial Fans

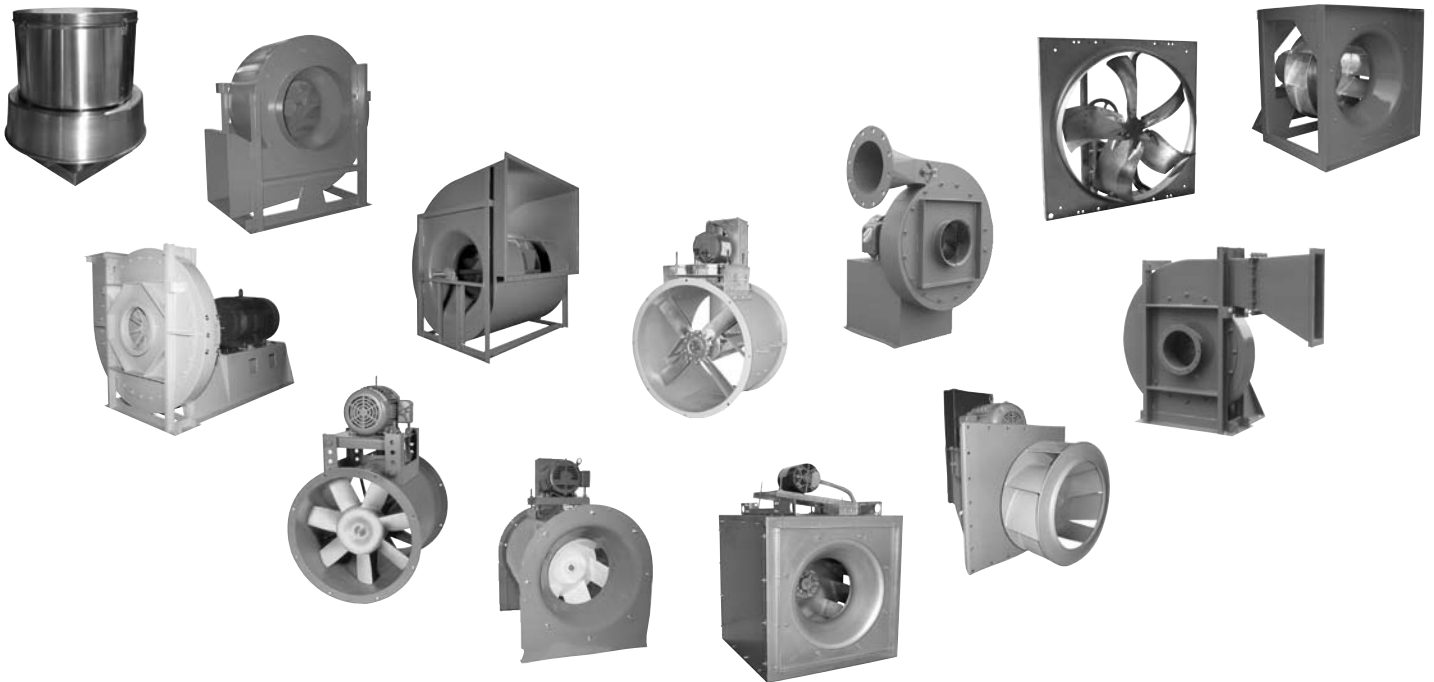
Centrifugal Fans • Utility Sets • Inline Centrifugal Fans • Plenum Fans  
Radial Bladed Fans • Centrifugal Roof & Wall Exhausters • Filtered Supply Fans  
Gravity Relief Ventilators • Ceiling & Cabinet Ventilators • Propeller Wall Fans  
Tubeaxial Fans • Vaneaxial Fans • Propeller Roof Ventilators  
Fume Hood/Smoke & Heat Exhaust Fans • Mancoolers • Fiberglass Fans

## Industrial Fans

Centrifugal Fans • Forward Curved & Air Kit Components • Inline Centrifugal Fans  
Plug Fans • Radial Bladed Fans • Radial Tip & High Efficiency Fans  
Pressure Blowers • Tubeaxial Fans • Vaneaxial Fans

## Custom Design Fans

Easy Access Fans • Insulated Fans • Inlet Boxes - Integral and Detached  
Inlet Box Dampers • Independent Bearing Pedestals • Split Housings • Bolted Housings  
Spark Resistant Construction • Ultra Fine Balancing • Modified Widths and Diameters  
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