CHICAGO

SQAD/SQBD DIRECT DRIVE FANS

HIGHER EFFICIENCY

GREATER VERSATILITY

SQAD/SQBD DIRECT DRIVE FANS

Basic SQAD airfoil fan with open inlet.

For Industrial Air Handling

Direct Drive SQAD/SQBD fans combine the performance and efficiency of Chicago's versatile "Square" Fans with the advantages of a compact directly driven arrangement. With the fan wheel mounted directly onto the motor shaft maximum efficiency is constantly maintained. Belt noise, power loss, maintenance and troublesome adjustments are eliminated.

IDEAL FOR MORE OEM APPLICATIONS

Chicago's Direct Drive Fan is now available as a SQBD with backwardly inclined blades in addition to the airfoil bladed SQAD. With the choice of two types of wheels application duty can be matched precisely. Also, the different performance characteristics of the two wheels allow for a wider performance range at standard synchronous motor speeds. The compact SQAD/SQBD fans are used in diverse OEM applications, from packaged forced air and dust collection systems to pressurizing and aeration installations.

CHICAGO EXPERIENCE

The proficiency gained as a leading supplier of industrial and custom heavy-duty fans is reflected in the rugged construction of all Chicago built fans. It's called "Industrial Quality" and guarantees exceptional performance and reliability. If you are unsure of the suitability of a particular fan for a specific application, the experienced Chicago air moving professionals will evaluate your needs and provide recommendations. Chicago Blower offices are located throughout America and around the world.

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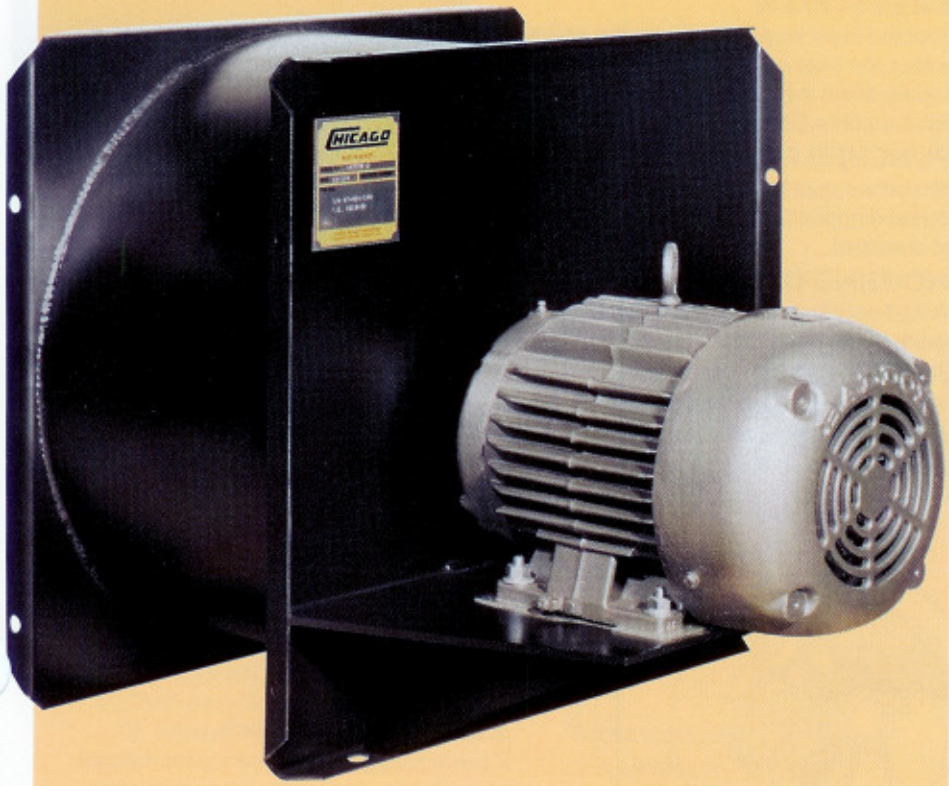
The building of all Chicago "SQ" Fans is monitored by stringent Quality Control and Quality Assurance Programs. Chicago's Stock Fan program assures expediency without sacrificing quality and reliability. "Our fan's most important feature is the reliability we are able to add to your product."



RUGGED HOUSING

The heavy gauge steel housings have continuously welded air-tight seams. All edges are flanged for exceptional rigidity. The fan outlet is also flanged for easier connection of ductwork.

RIGID MOTOR BASE

Heavy gauge steel motor base is supported by gussets that extend to the foundation flange and assure solid structural stability.

FOUR DISCHARGE POSITIONS

For versatility, the housing can be installed on the floor, wall or ceiling in any one of four discharge positions.

STREAMLINED INLET

The precision spun steel inlet cone assures closer wheel tolerances. The result is a smoother air flow across the entire operating range.

FACTORY RUN TESTED

To insure reliable, trouble-free performance every Chicago SQAD and SQBD fans are run tested for reliable performance.

AIRFOIL or BACKWARDLY INCLINED WHEELS

Airfoil Wheels

The SQAD with efficient airfoil wheel is recommended for clean air applications. Steel wheels are standard on Sizes 12-1/4 through 30. Cast aluminum airfoil wheels standard on Sizes 8-3/4 and 10, optional through Size 13-1/2.

Backwardly Inclined Wheels

The SQBD with backwardly inclined wheels provide reliable operation in applications with dirty or dusty airstreams. The wheel is constructed of flat single surface steel blades continuously welded to the backplate and wheel cone.

amca CERTIFIED RATINGS
AIR PERFORMANCE
AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Chicago Blower Corporation certifies that the SQA and SQB Fans shown or herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

OPTIONAL FEATURES

INLETS
Slip fit inlets and punched flanged inlets are available to meet installation requirements. The open inlet is standard.

INLET SCREEN
Welded steel wire screen mounts entirely within the inlet cone or outside the inlet vanes when the fan is furnished with an Inlet Volume Control.

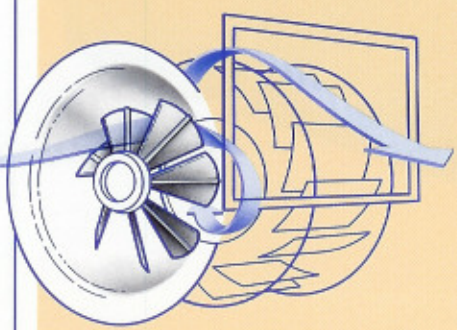
PUNCHED FLANGED OUTLET
Simplifies duct connection and matches outlet damper flanges. Unpunched flange is standard.

HOUSING DRAIN
A half coupling is welded to the lowest point of the housing.

ACCESS DOOR
The flush mounted door features quick opening tension clamps and neoprene gasket.

COMPACT MOUNTED ACTUATOR

The Inlet Volume Control is available with a compact, mounted pneumatic or electric actuator. Other actuator accessories include positioners, limit switches and special enclosures. The actuator is connected to the IVC and factory tested, ready for automatic air control at partial or varying loads.

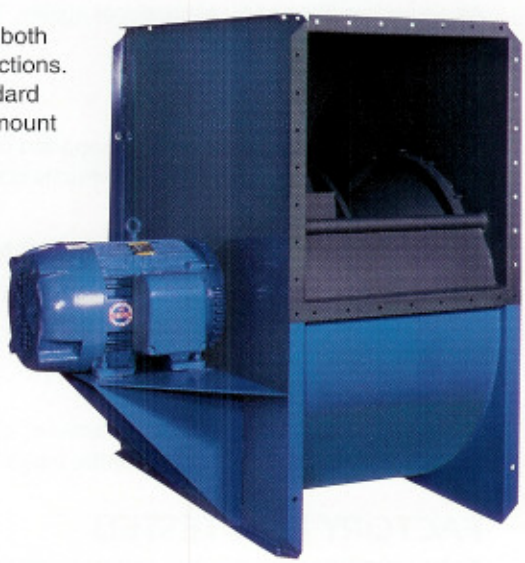


INLET VOLUME CONTROL
Adjustable guide vanes pre-spin the incoming air in the same rotation as the wheel to produce the desired volume of air at the exact pressure. The vanes are mounted entirely within the inlet cone. Chicago's Inlet Volume Control (IVC) is available on Sizes 18-1/4 through 30. Control linkage can be set up for manual or automatic operation. When the fan is used for varying or partial load applications, the Inlet Volume Control provides precise air control and more efficient operation.

OUTLET DAMPERS
Dampers have punched flanges on both ends to simplify fan and duct connections. Parallel acting blade design is standard with opposed blades available. To mount the damper on the fan, a matching punched flanged outlet is needed. Although the outlet damper is often selected for its low initial cost and simple operation, it does require substantially more horsepower at reduced air volume than an Inlet Volume Control.

BASE RAILS (Type "T")
Channel rails are fitted with rubber-in-shear or spring isolators.

SPARK RESISTANT CONSTRUCTION
AMCA Type C spark resistant construction consists of steel wheel, aluminum inlet cone and buffer between wheel backplate and housing. AMCA Type B construction is also available.



Fans can be furnished with a high gloss exterior finish to meet customer specifications.

FAN SELECTION

Pages 6 through 9 contain multi-rating tables for SQAD and SQBD fans. Each page provides data for a particular motor speed and fan wheel type. Fan sizes are listed with the maximum power (BHP) and the corresponding motor HP. Under each pressure (SP) rating, the volume (CFM) and outlet velocity (OV) for each fan size is listed. For pressures not provided in the tables, simply interpolate between two given pressures.

The separate SQAD and SQBD tables allow selection for type of application. If the application does not limit the requirements to either a SQAD or SQBD, a comparison of the two performances will help refine the selection.

AIR TEMP. °F	ALTITUDE (FEET)										
	0'	500'	1000'	1500'	2000'	2500'	3000'	3500'	4000'	4500'	5000'
0	.87	.88	.90	.92	.93	.95	.97	.99	1.00	1.02	1.04
40	.94	.96	.98	1.00	1.01	1.03	1.05	1.07	1.09	1.11	1.13
70	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20
80	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20	1.22
100	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20	1.22	1.25	1.27
120	1.09	1.11	1.13	1.16	1.18	1.20	1.22	1.24	1.27	1.29	1.31
140	1.13	1.15	1.17	1.20	1.22	1.24	1.26	1.29	1.31	1.34	1.36
160	1.17	1.19	1.21	1.24	1.26	1.28	1.31	1.33	1.35	1.38	1.41
180	1.21	1.23	1.25	1.28	1.30	1.32	1.35	1.37	1.40	1.42	1.45
200	1.25	1.27	1.29	1.32	1.34	1.36	1.39	1.42	1.44	1.47	1.50
250	1.34	1.36	1.39	1.41	1.44	1.47	1.49	1.52	1.55	1.58	1.61
300	1.43	1.46	1.49	1.51	1.54	1.57	1.60	1.63	1.66	1.69	1.72

EXAMPLE 1:

7100 CFM, 120°F, 2500' elevation, 10" SP, dust laden air

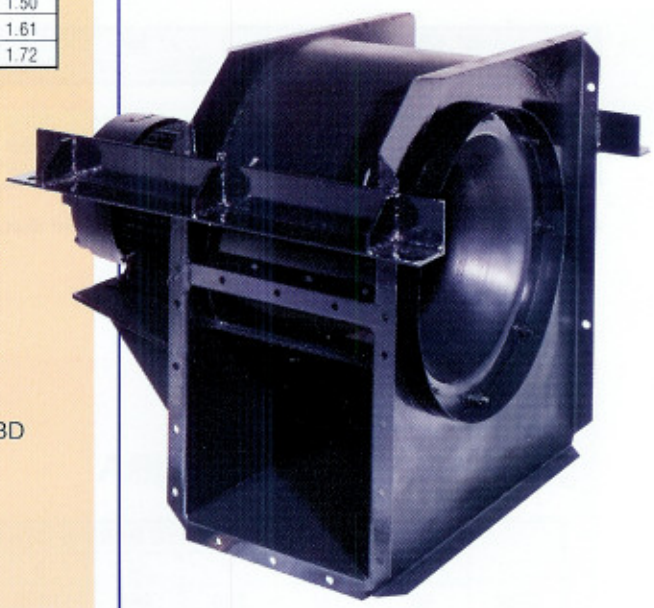
1. From the Correction Table above, the correction factor for 120° and 2500' elevation is 1.20.
2. The equivalent SP at 70°F and sea level equals 10 x 1.20 = 12"SP.
3. Since the application is dust laden air, enter the SQBD multi-rating table at 7100 CFM and 12" SP. You would select a Size 16-1/2 SQBD fan at 3500 RPM, requiring 19.8 BHP.
4. To correct the BHP to 120°F and 2500' elevation, use the same correction factor. 19.8 ÷ 1.2 = 16.5 BHP.

EXAMPLE 2:

8800 CFM, 70°F, sea level, 3"SP, clean air

1. At 70°F and sea level, no correction factor is required.
2. The clean air application allows for comparison of both the SQAD and SQBD multi-rating tables. Entering the tables at 8800 CFM and 3"SP, you would select a Size 22-1/4 SQAD fan at 1750 RPM with a 7-1/2 HP motor.

A custom engineered SQAD fan with anti-corrosion finish. Installation requirements included notching the housing corners and special oversize slip inlet. Customer supplied the special mounting brackets.



CHICAGO

SQAD

1750 RPM

AIRFOIL WHEEL - Performance Data

Fan Size	Motor HP	Max. BHP	½" SP CFM	½" SP OV	¾" SP CFM	¾" SP OV	1" SP CFM	1" SP OV	1¼" SP CFM	1¼" SP OV	1½" SP CFM	1½" SP OV	1¾" SP CFM	1¾" SP OV	2" SP CFM	2" SP OV	2¼" SP CFM	2¼" SP OV
8¾	¼	.06	414	1038	341	855												
10	¼	.15	811	1384	732	1249	648	1106	513	875								
12¼	½	.41	1579	1794	1491	1694	1396	1586	1296	1473	1192	1355	1054	1198				
13½	¾	.67	2153	2014	2060	1927	1960	1833	1852	1732	1743	1630	1631	1526	1499	1402	1294	1210
15	1½	1.13	3000	2274	2900	2199	2794	2118	2681	2033	2562	1942	2441	1851	2318	1757	2189	1660
16½	2	1.83	4038	2528	3930	2461	3818	2391	3700	2317	3575	2239	3445	2157	3312	2074	3178	1990
18¼	3	3.04	5516	2824	5398	2764	5277	2702	5152	2638	5022	2571	4885	2501	4743	2429	4598	2354
20	5	4.80	7310	3116	7183	3062	7053	3006	6919	2949	6782	2891	6640	2830	6492	2767	6338	2702
22¼	7½	7.35	10502	3621	10388	3582	10266	3540	10132	3494	9985	3443	9813	3384	9616	3316	9403	3242
24½	15	11.92	14073	4003	13950	3968	13821	3931	13685	3892	13539	3851	13378	3805	13198	3754	12994	3696
27	20	19.37	18892	4424	18759	4393	18621	4361	18478	4327	18327	4292	18168	4255	17997	4215	17810	4171
30	40	32.23	26283	4987	26112	4955	25940	4922	25766	4889	25990	4856	25411	4822	25230	4787	25047	4753

Fan Size	2½" SP CFM	2½" SP OV	2¾" SP CFM	2¾" SP OV	3" SP CFM	3" SP OV	3¼" SP CFM	3¼" SP OV	3½" SP CFM	3½" SP OV	4" SP CFM	4" SP OV	4½" SP CFM	4½" SP OV	5" SP CFM	5" SP OV	5½" SP CFM	5½" SP OV
15	2035	1543	1807	1370														
16½	3042	1905	2897	1814	2728	1708	2498	1564	2187	1369								
18¼	4450	2279	4302	2203	4152	2126	3996	2046	3824	1958	3350	1715						
20	6181	2635	6020	2566	5858	2497	5696	2428	5532	2358	5189	2212	4771	2034	4111	1752		
22¼	9187	3168	8987	3099	8800	3034	8620	2972	8441	2911	8070	2783	7658	2641	7197	2482	6678	2303
24½	12770	3632	12532	3564	12294	3497	12071	3433	11861	3373	11461	3260	11065	3147	10643	3027	10182	2896
27	17603	4122	17376	4069	17129	4011	16869	3951	16606	3889	16106	3772	15653	3666	15217	3564	14778	3461
30	24861	4717	24671	4681	24479	4645	24283	4608	24085	4570	23673	4492	23241	4410	22784	4323	22295	4231

Fan Size	6" SP CFM	6" SP OV	6½" SP CFM	6½" SP OV	7" SP CFM	7" SP OV	8" SP CFM	8" SP OV	9" SP CFM	9" SP OV	10" SP CFM	10" SP OV	11" SP CFM	11" SP OV	12" SP CFM	12" SP OV	13" SP CFM	13" SP OV
22¼	6073	2094	5424	1870														
24½	9675	2752	9118	2594	8490	2415	7076	2013										
27	14315	3352	13816	3236	13278	3110	12063	2825	10592	2481	8968	2100						
30	21762	4129	21178	4019	20527	3895	19148	3633	17906	3398	16777	3183	15651	2970	14309	2715	12066	2290

Performance shown is for Direct Drive SQA Fans with outlet duct.

BASIC SOUND POWER LEVEL and dBA

Size	OCTAVE BAND & CENTER Hz 1 / 63	2 / 125	3 / 250	4 / 500	5 / 1000	6 / 2000	7 / 4000	8 / 8000	Approx. dBA @ 10 ft.
8¾	73	68	65	59	56	53	49	46	42
10	77	72	69	63	60	57	53	50	43
12¼	81	75	79	71	65	60	58	57	53
13½	84	78	82	74	68	63	61	60	56
15	87	81	85	77	71	66	64	63	59
16½	90	84	88	80	74	69	67	66	62
18¼	94	88	92	84	78	73	71	70	66
20	95	90	94	85	79	75	73	72	68
22¼	97	96	90	86	82	79	75	73	70
24½	100	98	93	89	85	82	78	76	74
27	103	101	96	92	87	85	81	78	77
30	106	105	99	95	91	88	84	82	80

NOTES ON SOUND RATINGS:

1. Ratings are based on sound tests in accordance with AMCA sound code 300 setup 1.
2. Values shown are for total internal sound power level re 10^{-12} watt per AMCA Bul. 301 and 303, if necessary to obtain sound pressure level at 5 feet from fan, subtract 15 dB from octave band figure and make a further correction for end reflection based on data in the ASHRAE Handbook of Fundamentals.
3. DBA value applies to 10 foot distance based on theoretical free field environment.
4. Ratings apply to normal range of selection for high efficiency. Correction required for inlet Vane Control...contact factory.
5. Octave band center frequency in cycles/sec., Hz, are per ANSI S1.6-1960 and AMCA series 2.
6. The AMCA Certified Ratings Seal applies to air performance only.

CHICAGO

SQBD

1750 RPM

BACKWARD INCLINED WHEEL - Performance Data

Fan Size	Motor HP	Max. BHP	½" SP CFM	½" SP OV	¾" SP CFM	¾" SP OV	1" SP CFM	1" SP OV	1¼" SP CFM	1¼" SP OV	1½" SP CFM	1½" SP OV	1¾" SP CFM	1¾" SP OV	2" SP CFM	2" SP OV	2¼" SP CFM	2¼" SP OV
12¼	¾	.76	1722	1957	1654	1880	1579	1794	1490	1793	1391	1581	1290	1466	1139	1294		
13½	1	.90	2335	2182	2263	2115	2186	2043	2100	1963	2002	1871	1894	1770	1784	1667	1660	1551
15	1½	1.53	3239	2454	3161	2395	3080	2333	2993	2267	2899	2196	2793	2116	2677	2028	2554	1935
16½	3	2.47	4346	2733	4262	2681	4175	2626	4085	2569	3989	2509	3887	2445	3774	2374	3651	2296
18¼	5	4.09	5921	3036	5830	2990	5736	2942	5640	2892	5540	2841	5435	2787	5325	2731	5207	2670
20	7½	6.44	7833	3347	7734	3305	7632	3262	7529	3218	7423	3172	7314	3126	7201	3077	7083	3027
22¼	10	10.38	11403	3932	11289	3893	11176	.3854	11063	3815	10949	3776	10835	3736	10720	3697	10604	3657
24½	20	16.83	15276	4340	15152	4305	15027	4269	14902	4234	14777	4198	14652	4163	14527	4127	14401	4091
27	30	27.35	20505	4802	20368	4770	20231	4738	20094	4706	19956	4674	19818	4641	19680	4609	19542	4577
30	50	45.09	27366	5193	27223	5166	27079	5138	26934	5111	26788	5083	26641	5055	26493	5027	26343	4999

Fan Size	2½" SP CFM	2½" SP OV	2¾" SP CFM	2¾" SP OV	3" SP CFM	3" SP OV	3¼" SP CFM	3¼" SP OV	3½" SP CFM	3½" SP OV	4" SP CFM	4" SP OV	4½" SP CFM	4½" SP OV	5" SP CFM	5" SP OV	5½" SP CFM	5½" SP OV
13½	1445	1350																
15	2432	1842	2295	1739	2089	1583												
16½	3520	2214	3385	2129	3251	2045	3106	1953	2914	1833								
18¼	5079	2605	4942	2534	4798	2461	4649	2384	4500	2308	4187	2147	3683	1889				
20	6959	2974	6827	2918	6687	2858	6537	2794	6381	2727	6055	2588	5729	2448	5340	2282	4673	1997
22¼	10485	3616	10363	3573	10236	3530	10101	3483	9956	3433	9637	3323	9278	3199	8891	3066	8487	2927
24½	14274	4055	14146	4019	14016	3982	13882	3944	13743	3904	13448	3820	13119	3727	12752	3623	12351	3509
27	19403	4544	19265	4512	19125	4479	18984	4446	18842	4413	18548	4344	18237	4271	17901	4192	17532	4106
30	26192	4970	26040	4941	25886	4912	25730	4882	25573	4853	25253	4792	24924	4729	24586	4665	24235	4599

Fan Size	6" SP CFM	6" SP OV	6½" SP CFM	6½" SP OV	7" SP CFM	7" SP OV	8" SP CFM	8" SP OV	9" SP CFM	9" SP OV	10" SP CFM	10" SP OV	11" SP CFM	11" SP OV	12" SP CFM	12" SP OV	13" SP CFM	13" SP OV
22¼	8055	2778	7586	2616	7062	2435												
24½	11925	3388	11484	3263	11022	3131	9999	2841										
27	17129	4011	16694	3910	16232	3801	15265	3575	14214	3329	13036	3053						
30	23874	4530	23497	4459	23106	4384	22286	4229	21426	4066	20497	3889	19406	3682	17856	3388		

Performance shown is for Direct Drive SQB Fans with outlet duct.

BASIC SOUND POWER LEVEL and dBA

Size	OCTAVE BAND & CENTER Hz 1	2	3	4	5	6	7	8	Approx. dBA @ 10 ft.
	63	125	250	500	1000	2000	4000	8000	
12¼	82	82	76	72	68	64	60	56	56
13½	84	83	78	74	70	67	63	60	58
15	87	86	81	78	73	70	66	64	61
16½	91	90	85	81	76	73	69	66	65
18¼	94	93	87	84	79	76	72	70	68
20	96	95	90	87	82	78	75	72	70
22¼	99	99	94	89	85	82	78	76	74
24½	104	102	96	93	89	85	81	78	78
27	106	104	99	96	92	88	84	81	80
30	109	108	103	99	95	91	87	84	84

NOTES ON SOUND RATINGS:

1. Ratings are based on sound tests in accordance with AMCA sound code 300 setup 1.
2. Values shown are for total internal sound power level re 10^{-12} watt per AMCA Bul. 301 and 303, if necessary to obtain sound pressure level at 5 feet from fan, subtract 15 dB from octave band figure and make a further correction for end reflection based on data in the ASHRAE Handbook of Fundamentals.
3. DBA value applies to 10 foot distance based on theoretical free field environment.
4. Ratings apply to normal range of selection for high efficiency. Correction required for inlet Vane Control...contact factory.
5. Octave band center frequency in cycles/sec., Hz, are per ANSI S1.6-1960 and AMCA series 2.
6. The AMCA Certified Ratings Seal applies to air performance only.

CHICAGO

SQAD

3500 RPM

AIRFOIL WHEEL - Performance Data

Fan Size	Motor HP	Max. BHP	½" SP CFM	½" SP OV	1" SP CFM	1" SP OV	1½" SP CFM	1½" SP OV	2" SP CFM	2" SP OV	2½" SP CFM	2½" SP OV	3" SP CFM	3" SP OV	3½" SP CFM	3½" SP OV	4" SP CFM	4" SP OV
8¾	¾	.62	1211	2697	1153	2568	1091	2430	1023	2278	952	2120	879	1958	786	1751	633	1410
10	1	1.20	1827	3118	1763	3009	1695	2892	1623	2770	1545	2637	1464	2498	1383	2360	1297	2213
12¼	5	3.31	3398	3861	3320	3773	3241	3683	3159	3590	3073	3492	2983	3390	2889	3283	2792	3173
13½	7½	5.38	4566	4271	4481	4192	4395	4111	4306	4028	4215	3943	4120	3854	4022	3762	3920	3667
15	10	9.12	6285	4765	6192	4694	6097	4622	6000	4549	5901	4474	5800	4397	5696	4318	5588	4237
16½	15	14.69	8387	5252	8284	5187	8181	5123	8076	5057	7969	4990	7860	4922	7749	4852	7636	4781
18¼	25	24.30	11374	5824	11261	5766	11147	5708	11032	5649	10915	5589	10797	5528	10677	5467	10555	5405
20	40	38.43	14995	6392	14871	6339	14746	6286	14621	6232	14494	6178	14366	6124	14237	6069	14106	6013

Fan Size	4½" SP CFM	4½" SP OV	5" SP CFM	5" SP OV	6" SP CFM	6" SP OV	7" SP CFM	7" SP OV	8" SP CFM	8" SP OV	9" SP CFM	9" SP OV	10" SP CFM	10" SP OV	11" SP CFM	11" SP OV	12" SP CFM	12" SP OV
10	1192	2034	1027	1753														
12¼	2692	3059	2593	2947	2385	2710	2109	2397										
13½	3814	3568	3705	3466	3486	3261	3262	3051	2999	2805	2589	2422						
15	5477	4152	5363	4066	5125	3886	4882	3701	4637	3516	4378	3319	4071	3086	3615	2740		
16½	7519	4708	7400	4634	7151	4478	6890	4314	6624	4148	6356	3980	6084	3810	5794	3628	5456	3416
18¼	10431	5341	10305	5276	10040	5143	9771	5003	9487	4858	9196	4709	8900	4557	8604	4406	8305	4252
20	13974	5957	13839	5899	13564	5782	13280	5661	12984	5535	12677	5404	12362	5269	12041	5133	11717	4994

Fan Size	13" SP CFM	13" SP OV	14" SP CFM	14" SP OV	15" SP CFM	15" SP OV	16" SP CFM	16" SP OV	17" SP CFM	17" SP OV	18" SP CFM	18" SP OV	19" SP CFM	19" SP OV	20" SP CFM	20" SP OV	21" SP CFM	21" SP OV
16½	4996	3128	4375	2740														
18¼	7992	4092	7649	3917	7244	3709	6700	3431	6004	3074								
20	11392	4856	11066	4717	10732	4575	10379	4424	9992	4259	9542	4067	8964	3821	8223	3505	7489	3192

Performance shown is for Direct Drive SQA Fans with outlet duct.

BASIC SOUND POWER LEVEL and dBA

Size	OCTAVE BAND & CENTER Hz 1 / 63	2 / 125	3 / 250	4 / 500	5 / 1000	6 / 2000	7 / 4000	8 / 8000	Approx. dBA @ 10 ft.
8¾	85	88	83	80	74	71	67	64	61
10	89	92	87	84	78	75	71	68	65
12¼	101	95	90	94	85	79	75	73	73
13½	104	98	93	97	88	82	78	76	76
15	107	101	96	100	91	85	81	79	79
16½	110	104	99	103	94	88	84	82	82
18¼	114	108	103	107	98	92	88	86	86
20	116	110	105	109	100	94	90	88	88

NOTES ON SOUND RATINGS:

1. Ratings are based on sound tests in accordance with AMCA sound code 300 setup 1.
2. Values shown are for total internal sound power level re 10^{-12} watt per AMCA Bul. 301 and 303, if necessary to obtain sound pressure level at 5 feet from fan, subtract 15 dB from octave band figure and make a further correction for end reflection based on data in the ASHRAE Handbook of Fundamentals.
3. DBA value applies to 10 foot distance based on theoretical free field environment.
4. Ratings apply to normal range of selection for high efficiency. Correction required for inlet Vane Control...contact factory.
5. Octave band center frequency in cycles/sec., Hz, are per ANSI S1.6-1960 and AMCA series 2.
6. The AMCA Certified Ratings Seal applies to air performance only.

Size 12-1/4 SQAD with optional cast aluminum wheel rated for 2385 CFM at 6" SP.

CHICAGO

SQBD

3500 RPM

BACKWARD INCLINED WHEEL - Performance Data

Fan Size	Motor HP	Max. BHP	½" SP		1" SP		1½" SP		2" SP		2½" SP		3" SP		3½" SP		4" SP	
			CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV
12¼	5	4.46	3630	4125	3569	4056	3507	3985	3444	3914	3378	3839	3309	3760	3236	3677	3158	3589
13½	7½	7.24	4872	4553	4806	4492	4739	4429	4670	4364	4599	4298	4527	4231	4451	4160	4373	4087
15	15	12.33	6701	5077	6629	5022	6556	4967	6483	4911	6408	4855	6332	4797	6255	4739	6176	4679
16½	20	19.90	8935	5619	8856	5570	8777	5520	8697	5470	8617	5419	8535	5368	8453	5316	8369	5264
18¼	30	33.00	12110	6210	12023	6166	11936	6121	11849	6076	11761	6031	11672	5986	11583	5940	11493	5894
20	50	52.30	15956	6819	15862	6779	15768	6738	15673	6698	15578	6657	15482	6616	15386	6575	15289	6534

Fan Size	4½" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP	
	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV
12¼	3073	3492	2981	3388	2783	3163	2580	2932	2278	2589								
13½	4290	4009	4201	3926	4005	3743	3789	3541	3568	3335	3320	3103	2890	2701				
15	6094	4617	6009	4552	5828	4415	5625	4261	5399	4090	5160	3909	4922	3729	4661	3531	4277	3240
16½	8283	5209	8196	5155	8014	5040	7819	4918	7606	4784	7370	4635	7116	4475	6854	4311	6594	4147
18¼	11402	5847	11309	5799	11120	5703	10924	5602	10717	5496	10496	5383	10256	5259	9996	5126	9719	4984
20	15191	6492	15093	6450	14894	6365	14690	6278	14479	6188	14261	6094	14032	5997	13788	5892	13526	5780

Fan Size	13" SP		14" SP		15" SP		16" SP		17" SP		18" SP		19" SP		20" SP		21" SP	
	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV	CFM	OV
16½	6319	3974	5965	3752	5429	3414												
18¼	9432	4837	9144	4689	8858	4543	8551	4385	8171	4190	7645	3921	6734	3453				
20	13246	5661	12949	5534	12641	5402	12327	5268	12015	5135	11704	5002	11376	4862	10998	4700	10505	4489

Performance shown is for Direct Drive SQB Fans with outlet duct.

BASIC SOUND POWER LEVEL and dBA

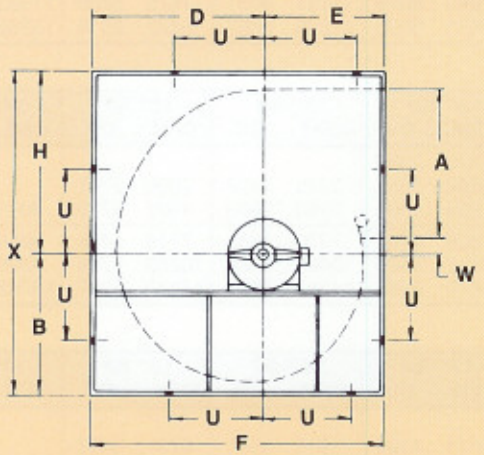
Size	OCTAVE BAND & CENTER Hz								Approx. dBA @ 10 ft.
	1	2	3	4	5	6	7	8	
	63	125	250	500	1000	2000	4000	8000	
12¼	94	97	96	91	87	81	79	75	74
13½	96	100	98	94	89	84	82	78	77
15	99	103	102	97	93	88	85	81	81
16½	103	106	105	100	95	91	88	84	83
18¼	106	109	107	103	98	94	91	88	86
20	108	111	110	106	102	97	94	90	90

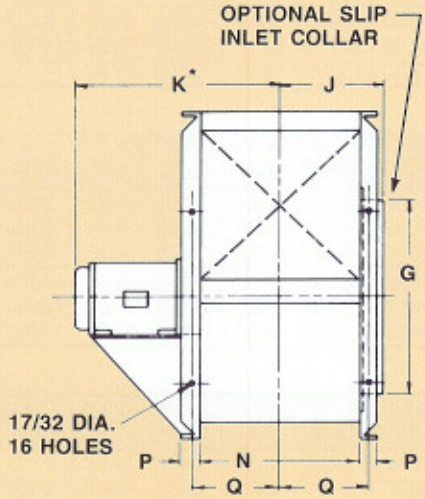
NOTES ON SOUND RATINGS:

1. Ratings are based on sound tests in accordance with AMCA sound code 300 setup 1.
2. Values shown are for total internal sound power level re 10^{-12} watt per AMCA Bul. 301 and 303, if necessary to obtain sound pressure level at 5 feet from fan, subtract 15 dB from octave band figure and make a further correction for end reflection based on data in the ASHRAE Handbook of Fundamentals.
3. DBA value applies to 10 foot distance based on theoretical free field environment.
4. Ratings apply to normal range of selection for high efficiency. Correction required for inlet Vane Control...contact factory.
5. Octave band center frequency in cycles/sec., Hz, are per ANSI S1.6-1960 and AMCA series 2.
6. The AMCA Certified Ratings Seal applies to air performance only.

Size 13-1/2 SQBD with spark resistant construction rated for 3320 CFM at 9" SP.

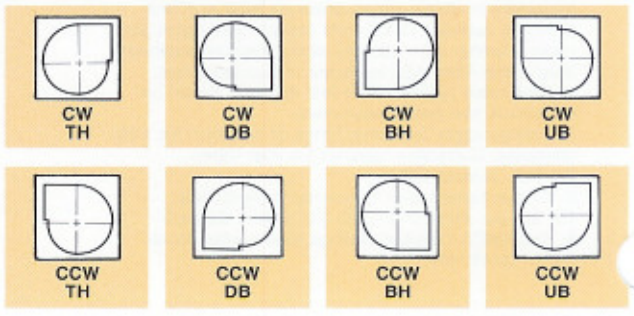
DIMENSIONAL DATA





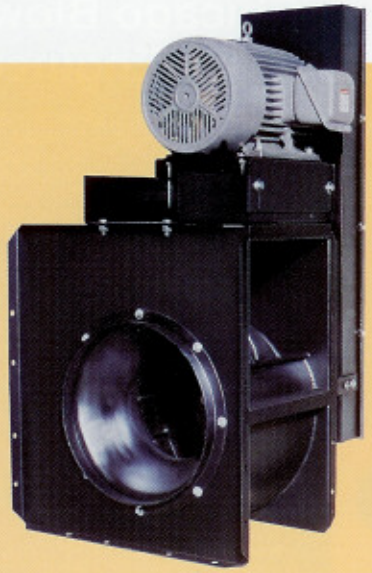
Fan Size	Wheel Dia.	DIMENSIONS — INCHES														
		A	B	D	E	F	G	H	J	K	N	P	Q	U	W	X
8¾	9 7/16	8 9/16	7 5/8	9 1/16	7½	16 9/16	9 3/8	10 3/8	5 3/8	13 7/16	7 9/16	1⅛	4 15/32	5 1/16	1 1/16	18
10	10 13/16	9 13/16	8 5/8	10 5/16	8½	18 13/16	10 7/8	11 11/16	5 7/8	16½	8 5/8	1⅛	5	5 1/16	1 1/16	20 5/16
12¼	13¼	12	10½	12½	10	22½	13 7/16	14 1/16	6 7/8	18 3/8	10 11/16	1⅛	6 1/32	7	1 1/16	24 9/16
13½	14 9/16	13¼	11½	13¾	11	24¾	15 7/16	15 3/8	7 1/16	22 11/16	11¾	1⅛	6 9/16	7 1/16	1 1/16	26 7/8
15	16 3/16	14 5/8	12¾	15¼	12	27¼	16 9/16	17 5/16	8 1/16	26¼	13 1/16	1½	7⅜	8 9/16	1¼	30 1/16
16½	17 13/16	16	14	16¾	13	29¾	18 9/16	18 15/16	8¾	28⅜	14⅜	1½	8 1/16	9⅜	1 7/16	32 15/16
18¼	19 11/16	17 13/16	15 7/16	18½	14¼	32¾	20 9/16	20 13/16	10	32½	15⅞	1½	8 13/16	10⅜	1½	36¼
20	21 9/16	19 7/16	17	20⅜	15½	35⅞	22 9/16	22 5/8	10 7/8	34 3/16	17⅜	1½	9 9/16	11¾	1 11/16	39⅝
22¼	24	21⅝	18⅞	22 9/16	17	39 9/16	24 9/16	25	11⅞	31¾	19⅜	1½	10 9/16	13¼	1⅞	43⅞
24½	26 7/16	23 13/16	20¾	24 13/16	18½	43 5/16	27 9/16	27⅜	12⅞	32¾	21 5/16	1½	11 17/32	14¾	2 1/16	48⅛
27	29⅛	26¼	22⅞	27¼	20¼	47½	30 9/16	30½	14½	34¼	23½	2	12⅞	16½	2¼	53⅜
30	32⅜	29 3/16	25 5/16	30¼	22¼	52½	33 9/16	33 1/16	15¾	38⅜	26⅛	2	14 3/16	18½	2 9/16	59

Fan Size	Fan Weight Less Motor		Available Frame Sizes	Position of Discharge and Rotation (Viewed from drive [motor] side)
	SQAD	SQBD		
8¾	55	—	48, 56	
10	70	—	48, 56, 143T	
12¼	97	97	56, 143T, 145T, 182T, 184T	
13½	118	120	56, 143T, 145T, 182T, 184T, 213T, 215T	
15	170	176	56, 143T, 145T, 213T, 215T, 254T	
16½	184	188	145T, 182T, 184T, 215T, 254T, 256T	
18¼	230	238	182T, 184T, 254T, 256T, 284TS, 324TS	
20	286	297	184T, 213T, 286TS, 324TS, 326TS	
22¼	353	366	182T, 184T, 213T, 215T, 254T	
24½	427	440	213T, 215T, 254T, 256T	
27	574	587	213T, 215T, 254T, 256T, 286T	
30	669	704	284T, 286T, 324T, 326T	



*K Dimension Applies to Max. Motor Frame Size.

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED.



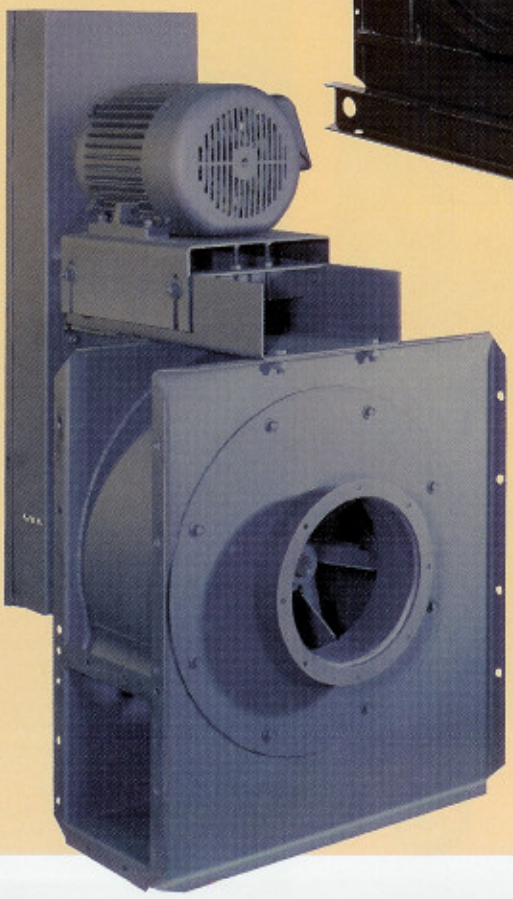
CHICAGO SQUARE FANS for EVERY APPLICATION

SQA FANS

The airfoil bladed fan is the most efficient wheel type and is recommended primarily for clean air applications. Like all Chicago Square Fans, the SQA has flanged edges on four sides for added strength and for mounting in any of the four discharge positions. Stock sizes from 8-3/4 to 44-1/2 with volumes to 55,600 CFM and pressures to 16" wg. Ask for Bulletin SQA.

SQB FANS

This type SQB is designed for industrial applications where the good efficiency of backwardly inclined blades is combined with the capability of handling corrosive or dusty airstreams. Shown is a Size 30 factory mounted on a Unitary base with motor, guards and Chicago's Inlet Volume Control for greater efficiency in reduced load applications. Ask for Bulletin SQB.



SQI FANS

Using industrial duty radial blades that resist material build-up, the SQI is especially recommended for sticky, heavy or abrasive applications. With welded heavy steel plate housing, steel wheels and oversized bearings, the SQI is a hard working industrial fan designed for pressures to 18" wg. Inlet diameter sizes from 5" to 17". Options include finishes to meet customer specifications. Ask for Bulletin SQI.

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Chicago Industrial Fans are built to accommodate dirty and corrosive environments. Wheels are available to match the duty, class and application. Fiberglass Reinforced Plastic fans resist harsh chemical fumes, vapors and gases.

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