

WPD Direct Drive Propeller Wall Fans

WPD Medium Duty Propeller Wall Fans are specifically designed for cost effective, general-purpose ventilation. All belt driven models are available in either exhaust or supply configurations. The steel panel design is available with cast aluminum or fabricated steel propellers to meet specific application requirements.

Regardless of the application, the WPD Series offers a high quality, cost competitive propeller fan solution.



WPD with E4 Propeller

Size and Performance

- Direct drive sizes 14" to 48"
- Capacities from 1900 CFM to 62800 CFM
- Static pressures to 1" w.g.
- Maximum operating temperature is 130°F

Construction Features

- Cast aluminum or fabricated steel propellers.
- Steel panel with deep formed inlet venturi which distributes air velocity uniformly.
- Pre-punched mounting holes for ease of installation.
- Motor supports are constructed of heavy-gauge galvanized steel.
- Fans designed for exhaust and supply service are provided with motor and drive located on the interior side of the building.
- Pre-engineered accessories to accommodate any installation.
- Dynamically balanced propellers for quiet, vibration-free operation.
- Designed for continuous duty.
- Cast iron pillow block bearings selected for L50 average life of 200,000 hours at maximum cataloged operating speeds.

Models WPD are ETL Listed and comply with UL705 (electrical) Standards and CSA Std. C22.2, No. 113.



The manufacturer certifies that the WPD Wall Propeller Fans shown 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 AMCA Publication 311 and comply with the AMCA Certified Ratings Program.

Propellers

WPD propeller fans are available with either fixed pitch fabricated steel (sizes 24 through 48) or adjustable pitch cast aluminum propellers (sizes 14 through 48). Each propeller type is designed for a wide variety of commercial market applications with static pressure capabilities from 0" to 1". Regardless of the application requirement, WPD propellers offer the right choice.

FAN SIZE	DIRECT DRIVE
14	E
16	E
18	E
21	E
24	E/Z
30	E/Z
36	E/Z
42	E/Z
48	E/Z



“E” Die Cast Aluminum Propellers

The “E” series features a die cast aluminum propeller available in 4 and 8 blade designs. Blade angles are factory set and mounted in a die cast aluminum hub. “E” propellers are available in 14" through 48" diameters.

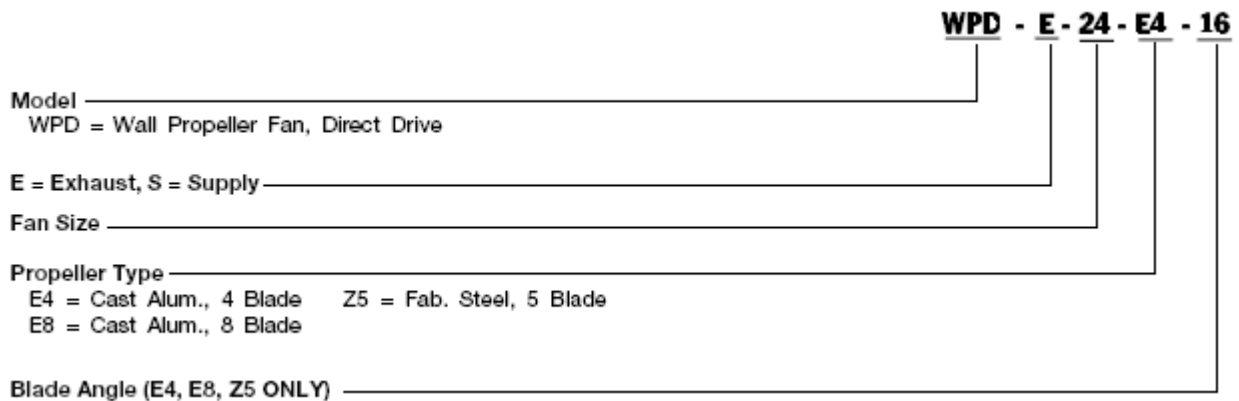


“Z” Fabricated Steel Propeller

The “Z” series features a fixed pitch, fabricated steel, 5-bladed propeller. Steel blades are continuously welded to a heavy gauge hub at the customer’s selected blade angle. “Z” propellers are available in 24" through 48" diameters.

LEVEL	PROPELLER CONSTRUCTION	MODEL	SIZE RANGE	PERFORMANCE RANGE CFM	STATIC PRESSURE CAPABILITY
3	Cast Aluminum Blades and Hubs	WPD	14-48	883 to 35,350	Up to 1.00 in w.g.
	Steel Blades and Hubs		24-48	3,100 to 32,200	

Model Nomenclature



Performance Data – Direct Drive

14 - 24 WPD

MODEL INFO			MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
SIZE	PROPELLER	BLADE ANGLE					0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
			Max RPM E4 = 1750 E8 = 1750				Max Motor Frame Size = 56											
14	E4 Cast Aluminum	20	1/4	1750	0.19	12.5	1911	1793	1760	1725	1649	1561	1456	1271	883			
		24	1/4	1750	0.22	13.0	2126	2002	1968	1931	1850	1755	1653	1480	1113			
		28	1/4	1750	0.26	13.8	2308	2172	2135	2097	2018	1931	1832	1637	1215			
		32	1/3	1750	0.31	14.9	2482	2325	2283	2241	2153	2061	1954	1741	1256			
	E8 Cast Aluminum	16	1/4	1750	0.21	14.6	1596	1529	1511	1493	1454	1412	1365	1286	1149			
		20	1/4	1750	0.26	15.0	1857	1783	1763	1743	1701	1657	1608	1527	1388	1178		
		24	1/3	1750	0.32	14.7	2121	2042	2022	2001	1956	1910	1860	1776	1622	1437		
			Max RPM E4 = 1750 E8 = 1750				Max Motor Frame Size = 56											
16	E4 Cast Aluminum	16	1/4	1750	0.23	18.1	2361	2217	2178	2138	2053	1962	1855	1643				
		20	1/3	1750	0.29	18.7	2709	2564	2524	2484	2397	2300	2193	2017	1604			
		24	1/2	1750	0.37	19.7	3040	2888	2847	2805	2715	2615	2504	2315	1933			
		28	1/2	1750	0.45	20	3367	3192	3146	3099	3002	2901	2794	2608	2186			
	E8 Cast Aluminum	16	1/3	1750	0.52	21	3617	3437	3390	3341	3238	3129	3011	2816	2406	1832		
		20	1/3	1750	0.34	13.6	2291	2210	2189	2167	2122	2075	2025	1943	1787	1591		
		20	1/2	1750	0.43	15.2	2698	2603	2579	2555	2505	2455	2404	2329	2194	1995	1695	
		24	1/2	1750	0.54	15.4	3085	3001	2979	2956	2909	2860	2808	2722	2551	2348	2091	
			Max RPM E4 = 1750 E8 = 1750				Max Motor Frame Size = 56											
18	E4 Cast Aluminum	16	1/3	1750	0.34	19.8	3295	3107	3059	3009	2908	2804	2696	2520	2174			
		20	1/2	1750	0.43	21	3768	3602	3558	3512	3416	3312	3194	3006	2687	2223		
		24	1/2	1750	0.54	23	4293	4081	4027	3974	3865	3757	3650	3479	3113	2689	2113	
		28	3/4	1750	0.65	24	4686	4499	4450	4400	4296	4187	4072	3887	3522	3067	2510	
	E8 Cast Aluminum	12	1/2	1750	0.80	23	5129	4928	4875	4822	4711	4597	4472	4286	3916	3447	2839	
		12	1/2	1750	0.42	24	2585	2476	2449	2421	2364	2306	2248	2158	1982	1760		
		16	1/2	1750	0.52	23	3162	3064	3039	3013	2960	2906	2850	2763	2606	2410	2134	
		20	3/4	1750	0.68	24	3761	3641	3611	3581	3523	3465	3407	3324	3196	3054	2762	
			Max RPM E4 = 1750 E8 = 1750 Z5 = 1750				Max Motor Frame Size = 145T											
21	E4 Cast Aluminum	12	1/2	1750	0.40	25	3976	3712	3646	3580	3453	3327	3190	2940	2404			
		16	3/4	1750	0.53	27	4744	4513	4452	4390	4263	4128	3987	3761	3346			
		20	3/4	1750	0.71	29	5624	5391	5330	5268	5141	5009	4872	4653	4245	3740		
		24	1	1750	0.89	32	6328	6081	6017	5952	5817	5677	5530	5295	4881	4422	3750	
		28	1	1750	1.10	33	7042	6769	6699	6629	6484	6336	6185	5951	5528	5047	4432	
	E8 Cast Aluminum	12	1/2	1750	1.34	34	7644	7382	7313	7244	7103	6956	6804	6564	6121	5567	4932	
		12	3/4	1750	0.68	22	3773	3641	3607	3572	3501	3427	3349	3227	2999	2720	2413	
		16	1	1750	0.87	23	4725	4586	4551	4515	4443	4369	4295	4180	3987	3767	3478	
		20	1	1750	1.16	26	5661	5518	5482	5445	5372	5298	5224	5111	4926	4739	4517	3711
		24	1 1/2	1750	1.45	28	6524	6397	6365	6332	6264	6195	6123	6011	5810	5585	5326	4615
			Max RPM E4 = 1750 E8 = 1750 Z5 = 1750				Max Motor Frame Size = 184T											
24	E4 Cast Aluminum	12	1/2	1750	0.55	36	5320	5008	4925	4841	4665	4476	4281	3979	3427			
		16	3/4	1750	0.80	37	6722	6406	6325	6244	6078	5908	5736	5466	4966	4386	3661	
		20	1	1750	1.06	40	7842	7545	7468	7390	7228	7059	6882	6596	6096	5565	4904	
		24	1 1/2	1750	1.37	42	8950	8637	8556	8475	8309	8139	7964	7694	7212	6665	6043	
		28	1	1750	1.70	46	9914	9605	9525	9444	9278	9108	8931	8652	8148	7624	7068	
		32	2	1750	2.15	47	10932	10611	10528	10445	10276	10103	9927	9654	9175	8661	8119	6528
	E8 Cast Aluminum	12	1	1750	0.98	40	5260	5103	5062	5020	4933	4841	4745	4586	4278	3928	3553	
		16	1 1/2	1750	1.34	39	6720	6527	6479	6430	6332	6234	6136	5987	5747	5494	5181	4324
		20	2	1750	1.76	42	8101	7936	7894	7851	7765	7677	7586	7447	7205	6948	6668	5930
		24	2	1750	2.22	47	9392	9216	9171	9126	9034	8941	8846	8701	8450	8191	7920	7252
		Z5 Fabricated Steel	30	1/4	860	0.22	14.3	4461	3997	3887	3778	3527	3137					
			35	1/3	860	0.32	14.5	5295	4872	4749	4615	4304	3913	3350				
	40		1/2	860	0.42	15.6	6140	5661	5520	5360	4985	4623	4173					
	45		1/2	860	0.50	16.4	6703	6163	6010	5844	5471	5030						
	30		1/2	1160	0.54	24	6017	5673	5587	5501	5332	5170	5005	4705				
	35		3/4	1160	0.77	25	7142	6844	6764	6681	6507	6319	6109	5749	4951			
	Z5 Fabricated Steel	40	1	1160	1.02	27	8281	7945	7855	7761	7562	7343	7087	6661	5979			
		45	1 1/2	1160	1.24	28	9041	8659	8557	8452	8233	7997	7742	7312	6410			
30		2	1750	1.89	46	9077	8849	8792	8735	8621	8507	8393	8223	7947	7680	7391	6544	

NOTES:

1. Performance certified is for installation type A: Free inlet, free outlet.
2. Performance ratings do not include the effects of appurtenances (accessories).
3. The sound ratings shown are loudness values in fan sone at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.
4. The AMCA Certified Ratings Seal applies to some ratings only.

Performance Data – Direct Drive

30 – 48 WPD

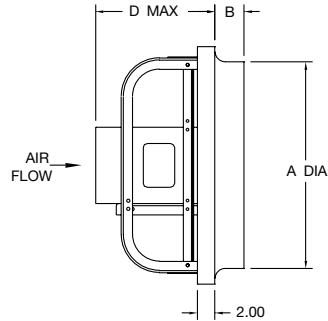
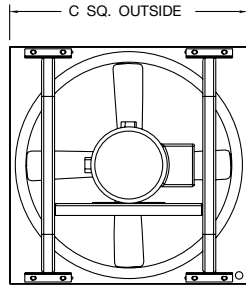
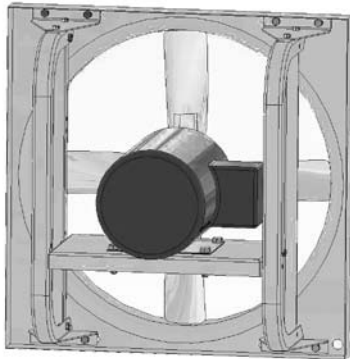
MODEL INFO			MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)												
SIZE	PROPELLER	BLADE ANGLE					0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000	
			Max RPM E4 = 1750 E8 = 1750 Z5 = 1160			Max Motor Frame Size = 184T													
30	E4 Cast Aluminum	12	3/4	1160	0.68	29	7308	6811	6681	6548	6273	5984	5683	5197					
		16	1	1160	0.92	28	8876	8353	8221	8088	7821	7556	7283	6843	5965				
		20	1 1/2	1160	1.20	30	10346	9890	9771	9650	9401	9142	8872	8439	7629	6565			
		24	1 1/2	1160	1.54	30	11830	11344	11218	11089	10826	10553	10268	9817	9007	8029	6540		
	E8 Cast Aluminum	12	1 1/2	1160	1.12	31	7126	6857	6786	6714	6564	6407	6239	5966	5430				
		16	1 1/2	1160	1.45	32	8774	8520	8454	8386	8247	8102	7950	7706	7242	6696			
		20	2	1160	1.93	32	10678	10361	10281	10201	10040	9877	9713	9467	9069	8627	7961		
		24	2	1160	2.17	31	14596	14052	13911	13768	13476	13174	12863	12375	11479	10428			
	Z5 Fabricated Steel	30	1 1/2	860	0.46	19.3	7877	7049	6878	6717	6385	5980	5477						
		35	3/4	860	0.65	19.4	9238	8568	8395	8220	7877	7505	6996	5996					
		40	1	860	0.89	20	10821	10070	9869	9662	9230	8761	8246	7243					
		45	1	860	1.08	21	11760	10955	10741	10522	10066	9579	9071	8089					
		30	1 1/2	1160	1.14	30	10624	9978	9829	9686	9414	9169	8932	8552	7752	6515			
		35	1 1/2	1160	1.60	30	12461	11969	11844	11719	11464	11206	10950	10568	9818	8653	7222		
		40	2	1160	2.17	31	14596	14052	13911	13768	13476	13174	12863	12375	11479	10428			
		40	2	1160	2.17	31	14596	14052	13911	13768	13476	13174	12863	12375	11479	10428			
			Max RPM E4 = 1750 E8 = 1750 Z5 = 1160			Max Motor Frame Size = 215T													
36	E4 Cast Aluminum	12	1	1160	1.04	41	10005	9294	9114	8933	8575	8208	7817	7177					
		16	1 1/2	1160	1.38	39	12415	11752	11582	11410	11060	10706	10341	9752	8613	7205			
		20	2	1160	1.86	43	15239	14648	14493	14334	14005	13658	13286	12678	11562	10278	8753		
		24	3	1160	2.44	44	17666	17043	16881	16715	16374	16019	15644	15035	13948	12819	11431		
	E8 Cast Aluminum	12	2	1160	1.84	41	10148	9681	9564	9448	9215	8984	8762	8422	7719				
		16	3	1160	2.45	48	12968	12627	12538	12447	12259	12062	11855	11519	10847	10113	9341		
		20	3	1160	3.31	51	15986	15625	15532	15438	15247	15051	14849	14535	13977	13367	12666	10750	
		24	3	1160	3.15	48	20116	19482	19317	19149	18804	18444	18069	17460	16335	15184	13870		
	Z5 Fabricated Steel	30	1 1/2	860	1.15	27	13611	12583	12351	12130	11730	11345	10927	10170	8241				
		35	1 1/2	860	1.61	28	15963	15165	14961	14755	14338	13925	13511	12813	11002				
		40	2	860	2.20	28	18699	17812	17580	17344	16857	16350	15819	14960	13273				
		45	3	860	2.71	29	20322	19369	19121	18869	18351	17815	17258	16369	14788				
		30	3	1160	2.81	43	118359	17566	17380	17198	16846	16509	16195	15759	15033	14169	13121		
		30	3	1160	2.81	43	118359	17566	17380	17198	16846	16509	16195	15759	15033	14169	13121		
		30	3	1160	2.81	43	118359	17566	17380	17198	16846	16509	16195	15759	15033	14169	13121		
		30	3	1160	2.81	43	118359	17566	17380	17198	16846	16509	16195	15759	15033	14169	13121		
			Max RPM E4 = 1160 E8 = 1160 Z5 = 860			Max Motor Frame Size = 254T													
42	E4 Cast Aluminum	12	1 1/2	860	1.32	27	13985	13003	12747	12488	11959	11408	10826	9873					
		16	2	860	1.77	28	17074	16069	15814	15558	15045	14534	14008	13149					
		24	3	860	3.03	31	23132	22197	21953	21705	21196	20667	20111	19229	17656	15814	13085		
		28	5	860	3.80	37	26159	25203	24954	24701	24182	23642	23079	22184	20539	18632	16081		
	E8 Cast Aluminum	12	2	860	2.22	24	13769	13218	13074	12928	12626	12311	11983	11458	10403				
		16	3	860	2.88	27	17111	16617	16488	16356	16084	15801	15503	15021	14097	13034			
		20	5	860	3.89	31	20894	20304	20154	20003	19698	19388	19074	18597	17804	16931	15701	12575	
		24	5	860	4.94	30	23995	23492	23362	23231	22961	22684	22396	21946	21132	20214	19115	15785	
	Z5 Fabricated Steel	30	3	860	3.15	35	21994	21428	21278	21125	20807	20471	20112	19515	18229	16809	15127		
		35	5	860	4.30	38	27263	25785	25480	25192	24657	24183	23773	23203	22221	20821	18852		
		30	3	860	3.15	35	21994	21428	21278	21125	20807	20471	20112	19515	18229	16809	15127		
		35	5	860	4.30	38	27263	25785	25480	25192	24657	24183	23773	23203	22221	20821	18852		
			Max RPM E4 = 1160 E8 = 1160 Z5 = 860			Max Motor Frame Size = 254T													
48	E4 Cast Aluminum	12	2	860	1.79	42	17582	16303	15979	15655	15010	14348	13637	12468					
		16	3	860	2.37	41	21818	20625	20319	20008	19378	18740	18080	17009	14925	12354			
		20	5	860	3.20	47	26780	25717	25437	25150	24555	23927	23252	22149	20122	17773	14943		
		24	5	860	4.18	46	31044	29924	29631	29332	28717	28075	27396	26291	24331	22278	19685		
	E8 Cast Aluminum	12	3	860	3.14	45	17833	16994	16784	16574	16155	15742	15343	14728					
		16	5	860	4.21	51	22788	22175	22014	21850	21510	21155	20780	20168	18942	17620	16204		
		20	5	860	5.56	51	28093	27444	27277	27108	26763	26408	26044	25476	24467	23356	22064		
		20	5	860	5.56	51	28093	27444	27277	27108	26763	26408	26044	25476	24467	23356	22064		
	Z5 Fabricated Steel	30	5	860	4.83	47	32263	30838	30504	30178	29548	28944	28386	27605	26290	24703	22762		
		30	5	860	4.83	47	32263	30838	30504	30178	29548	28944	28386	27605	26290	24703	22762		
		30	5	860	4.83	47	32263	30838	30504	30178	29548	28944	28386	27605	26290	24703	22762		
		30	5	860	4.83	47	32263	30838	30504	30178	29548	28944	28386	27605	26290	24703	22762		

NOTES:

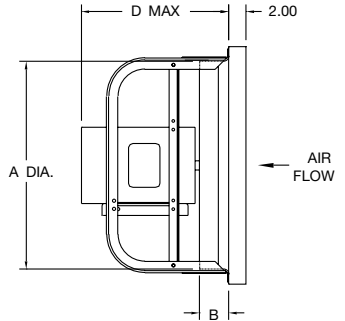
1. Performance certified is for installation type A: Free inlet, free outlet.
2. Performance ratings do not include the effects of appurtenances (accessories).
3. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.
4. The AMCA Certified Ratings Seal applies to sone ratings only.

Dimensional Data

Direct Drive - WPD



Exhaust Airflow



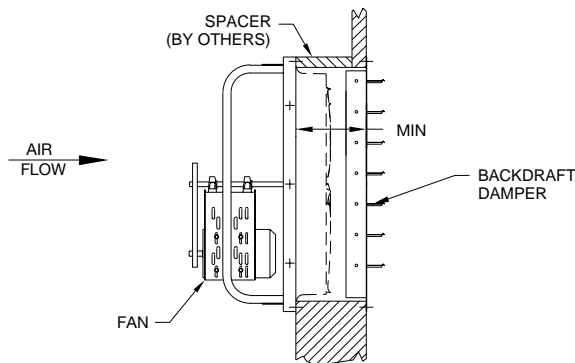
Supply Airflow

SIZE	A	B	C SQ.	D MAX		DAMPER SIZE	MAX MOTOR FRAME
				EXHAUST	SUPPLY		
14	14.25	2.75	17	11.18	14.88	14 x 14	56
16	16.25	3.00	20	11.18	14.88	17 x 17	56
18	18.25	3.00	22	11.18	14.88	19 x 19	56
21	21.25	3.50	25	14.41	17.36	22 x 22	145T
24	24.25	3.50	28	14.55	17.36	25 x 25	184T
30	30.38	4.00	36	14.74	19.05	33 x 33	184T
36	36.38	5.00	42	15.67	19.93	39 x 39	215T
42	42.38	5.50	48	23.59	30.00	45 x 45	254T
48	48.38	6.00	54	23.59	30.00	51 x 51	254T

Mounting without Accessories

TO ACHIEVE THE MINIMUM DIMENSION, THIS INSTALLATION REQUIRES A SPACER (BY OTHERS) BETWEEN THE FAN AND THE WALL.

IF THE WALL IS EQUAL TO OR GREATER THAN THE MINIMUM DIMENSION, THE FAN CAN BE MOUNTED DIRECTLY TO THE WALL.

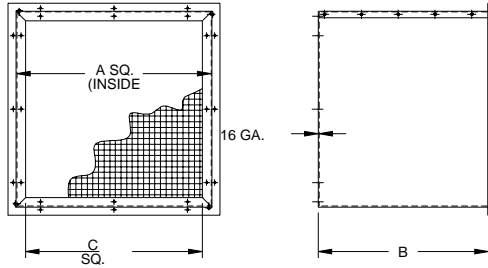


SIZE	MIN.
14	16
16	16
18	16
21	16
24	16
30	16
36	16
42	16
48	16
54	19
60	19

Dimensions are in inches.

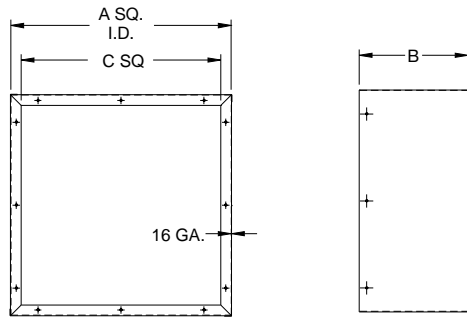
Dimensional Data – Accessories

Wall Box with Removable Screen



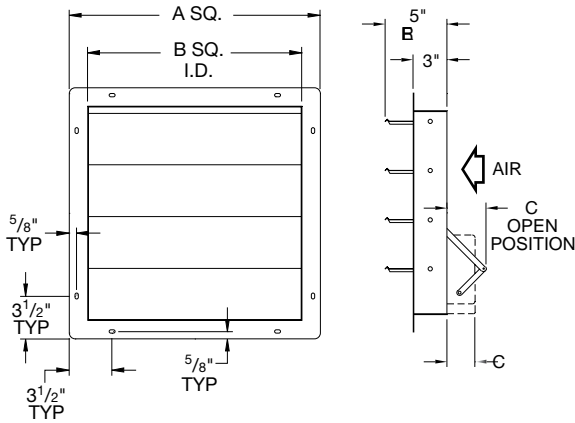
SIZE	A SQ.	B	C SQ.	MINIMUM WALL OPENING
14	17.25	33.50	14.13	18
16	20.25	34.00	17.13	21
18	22.25	34.00	19.13	23
21	25.25	40.00	22.13	26
24	28.25	42.00	25.13	29
30	36.25	42.00	33.13	37
36	42.25	45.50	39.13	43
42	48.25	46.00	45.13	49
48	54.25	50.50	51.13	55
54	60.25	49.00	57.13	61
60	66.25	53.50	63.13	67

Wall Collar



SIZE	A SQ.	B	C SQ.	MINIMUM WALL OPENING
14	17.25	20	14.13	18
16	20.25	20	17.13	21
18	22.25	20	19.13	23
21	25.25	20	22.13	26
24	28.25	20	25.13	29
30	36.25	20	33.13	37
36	42.25	20	39.13	43
42	48.25	20	45.13	49
48	54.25	20	51.13	55
54	60.25	23	57.13	61
60	66.25	23	63.13	67

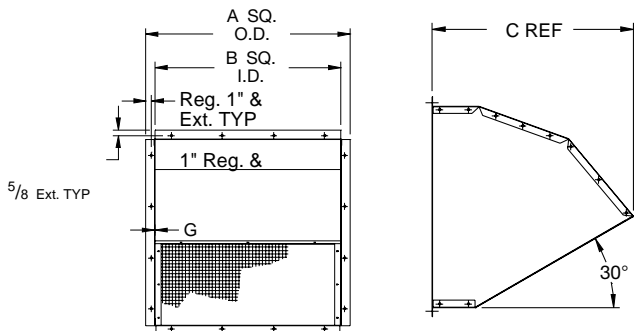
Backdraft Damper



SIZE	A SQ. FLANGE	B SQ.	C	NO. OF PANELS
14	16.50	14	6.00	1
16	19.50	17	6.00	1
18	21.50	19	6.00	1
21	24.50	22	6.00	1
24	27.50	25	6.00	1
30	35.50	33	6.00	1
36	41.50	39	7.50	2
42	47.50	45	7.50	2
48	53.50	51	7.50	2
54	59.50	57	7.50	2
60	65.50	63	7.50	3

Exhaust Damper shown (with front flange).
Supply damper has rear flange.

Weatherhood with Bird Screen



SIZE	A SQ.		B SQ.		C	GA.
	REG.	EXT.	REG.	EXT.		
14	17.25	21.25	14	14.75	15.13	18
16	20.25	24.25	17	17.75	17.13	18
18	22.25	26.25	19	19.75	19.50	18
21	25.25	29.25	22	22.75	22.13	18
24	28.25	32.25	25	25.75	25.13	18
30	36.25	40.25	33	33.75	33.25	16
36	42.25	46.25	39	39.75	39.25	16
42	48.25	52.25	45	45.75	45.25	16
48	54.25	58.25	51	51.75	51.25	16
54	60.25	64.25	57	57.75	56.00	16
60	66.25	70.25	63	63.75	61.25	16