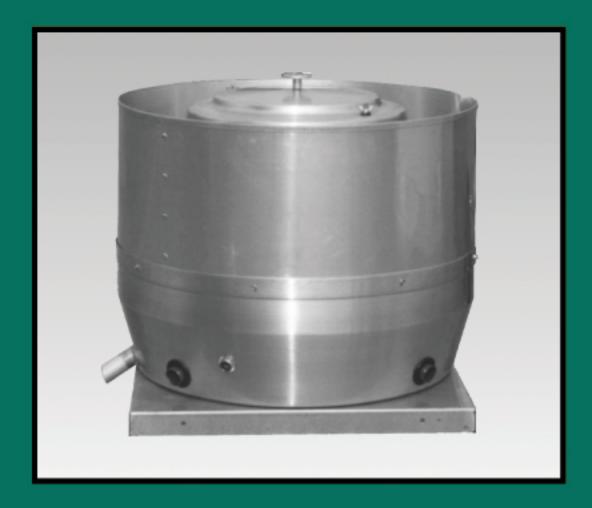


### AMERICAN COOLAIR CORPORATION



# Centrifugal Upblast Power Roof Ventilators

TYPE CUBA - BELT DRIVE TYPE CUDA - DIRECT DRIVE



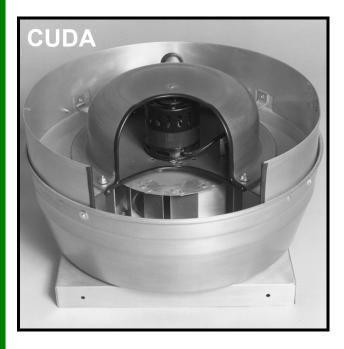
Sizes 12 to 24 781 to 8850 CFM Static Pressure to 2" AMCA Licensed Ratings for Sound and Air

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### CUBA

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### **DIRECT DRIVE FANS**

### **CUDA**

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Sizes 06 to 20 133 to 4942 CFM Static Pressure to 1" AMCA Licensed Ratings for Sound and Air

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### **FEATURES**

### **CUBA Units**

Belt drive with adjustable motor pulley provides flexibility to match operating requirements.

Single bolt adjustment facilitates tensioning of belt.

Weather-resistant motor compartment cover of spun aluminum removes easily for access to motor and drive.

Out-of-airstream open dripproof motors are isolated for protection from exhaust airstream.

Overlapping wheel and deepspun venturi minimize noise and air turbulence, increasing efficiency.

Aluminum centrifugal wheel is a non-overloading, backward-inclined design and is computer balanced.

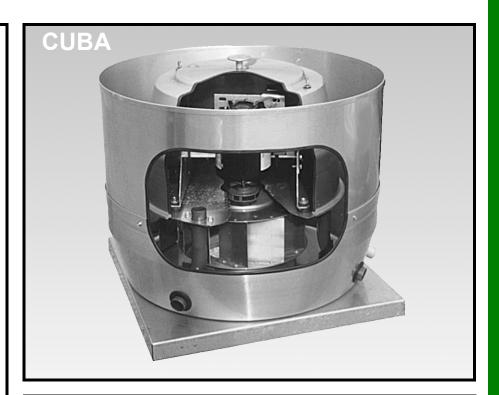
Permanently affixed wheel balance weights assure vibration-free operation.

Wheel backplate fins cool the motor compartment, extending motor life.

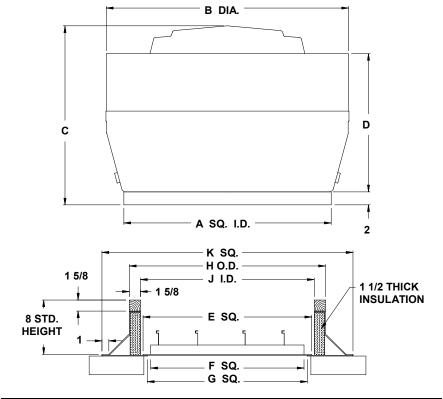
Safety disconnect switch is optional.

**AMCA Seal** assures certified rating of air and sound performance.

**UL Listed** for Standard 705 or Standard 762.



# CUBA Ventilator, Roof Curb, and Damper Dimensions

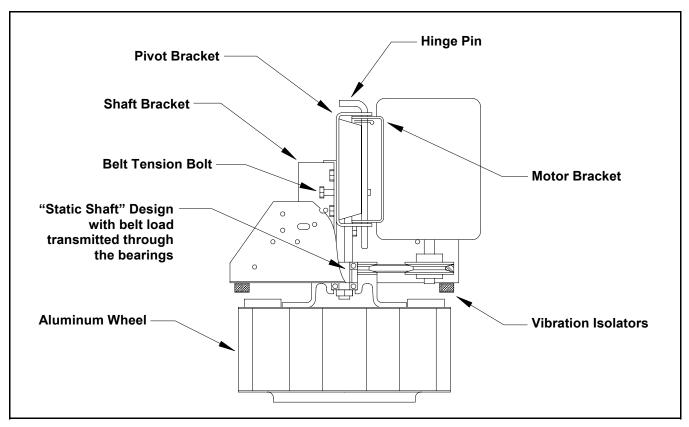


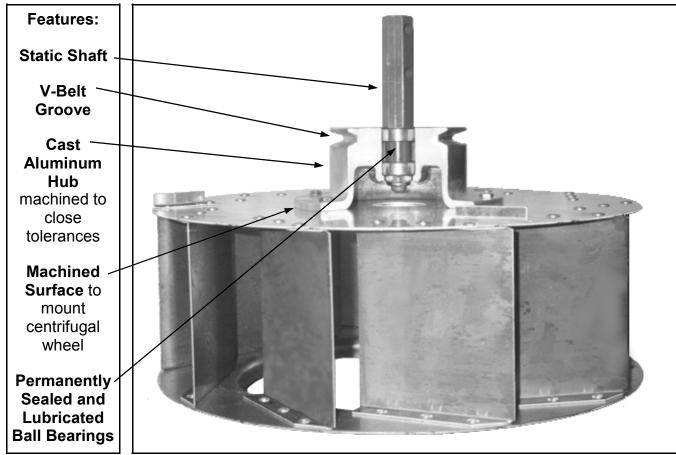
\	/entilator	r Dimensi	ons	F	Roof C	urb and E	Damper D	imension	S
Α	В	С	D	Е	F	G	Н	J	K
26	29 1/4	24 1/2	22	20 1/2	18	19 1/4	24 1/2	21 1/4	32 1/2
30	35 1/4	26 3/8	22	24 1/2	22	23 1/4	28 1/2	25 1/4	36 1/2
34	43	30	25 1/2	28 1/2	26	27 1/4	32 1/2	29 1/4	40 1/2
34	43	34 5/8	25 1/2	28 1/2	26	27 1/4	32 1/2	29 1/4	40 1/2
	A 26 30 34	A B 26 29 1/4 30 35 1/4 34 43	A B C 26 29 1/4 24 1/2 30 35 1/4 26 3/8 34 43 30	26 29 1/4 24 1/2 22 30 35 1/4 26 3/8 22 34 43 30 25 1/2	A B C D E 26 29 1/4 24 1/2 22 20 1/2 30 35 1/4 26 3/8 22 24 1/2 34 43 30 25 1/2 28 1/2	A B C D E F 26 29 1/4 24 1/2 22 20 1/2 18 30 35 1/4 26 3/8 22 24 1/2 22 34 43 30 25 1/2 28 1/2 26	A         B         C         D         E         F         G           26         29 1/4         24 1/2         22         20 1/2         18         19 1/4           30         35 1/4         26 3/8         22         24 1/2         22         23 1/4           34         43         30         25 1/2         28 1/2         26         27 1/4	A         B         C         D         E         F         G         H           26         29 1/4         24 1/2         22         20 1/2         18         19 1/4         24 1/2           30         35 1/4         26 3/8         22         24 1/2         22         23 1/4         28 1/2           34         43         30         25 1/2         28 1/2         26         27 1/4         32 1/2	A         B         C         D         E         F         G         H         J           26         29 1/4         24 1/2         22         20 1/2         18         19 1/4         24 1/2         21 1/4           30         35 1/4         26 3/8         22         24 1/2         22         23 1/4         28 1/2         25 1/4           34         43         30         25 1/2         28 1/2         26         27 1/4         32 1/2         29 1/4

Dimensions in inches

## ILG's "C-Drive"

### Available Exclusively on CUBA Units Sizes 12 - 24





### **CUBA**

### **Belt Drive Centrifugal Upblast Power Roof Ventilators**

### **Applications**

The CUBA units are quiet, dependable upblast power roof ventilators for the removal of grease-laden air from kitchen exhaust systems, and general ventilation applications where vertical discharge of exhaust air is required. Applications include virtually all types of commercial and institutional kitchens, such as restaurant and cafeteria, fast food, hospital, hotel and motel, bakery, delicatessen, school and military.

The advantages of a CUBA belt drive over a direct drive roof ventilator include quieter operation, adjustable performance to suit operating needs and extended service life using the "C-Drive" bearing arrangement.

The CUBA meets the rigorous requirements of Underwriters Laboratories Standard 762 and is so listed as being suitable for the extraction of grease-laden air and fumes from range exhaust hoods and commercial kitchen exhaust systems. When properly installed, the CUBA also meets the requirements of NFPA 96. It is particularly recommended for economical and efficient range hood ventilation where continuous operation under severe conditions may cause other power roof ventilators to fail.

### Construction

CUBA models feature a housing of durable spun aluminum for optimum weather protection. The overlapping deep-spun venturi minimizes air turbulence, and increases efficiency.

The aluminum centrifugal wheel is a non-overloading, backward-inclined type, selected for low noise levels. Backplate fins draw cool air through the motor compartment. The wheel is secured to the machined aluminum "C-Drive" disc, and computer balanced on state-of-the-art equipment.

Neoprene vibration isolators to reduce noise and wear are standard.

#### **Drive Mechanism**

The belt driven CUBA utilizes a unique bearing/shaft arrangement that has been designated the "C-Drive". This "C-Drive" is patterned after American Coolair's unique static shaft drive design that has been in existence for <u>over seventy years</u> serving the general ventilation markets with reliable propeller products. This type of drive uses a captured bearing arrangement inside a cast aluminum disc assembly locked to a short, large-diameter shaft. The shaft is held stationary and the centrifugal wheel/disc assembly rotates on the shaft instead of the entire assembly rotating.

This design accomplishes several identifiable points of value. As a result of reduction of radial loading of the bearings, the calculated <u>L10 bearing life</u> exceeds 1,000,000 hours or an <u>average bearing life</u> of 5,000,000 hours. Most other manufacturers' turning shaft drive designs result in a cataloged <u>average bearing life</u> of 150,000-200,000 hours. Additionally, the machined surface of the "C-Drive" provides a rigid backplate for the centrifugal wheel. Electrical connections on the end of the motor face upwards making field connections rapid and simple. This compact drive assembly provides more room in the motor compartment area and the single bolt, V-belt adjustment makes for a very serviceable unit.

#### **Motors**

The standard motor for CUBA models is open drip-proof construction, located out of the airstream. Totally enclosed, energy efficient, two-speed and explosion-proof motors may also be available. All motor brands are recognized and serviced nationwide. Motor enclosure may affect UL Listing.



UL705 - E39944

Type CUBA ventilators are UL705 Listed by Underwriters Laboratory Inc. to US and Canadian safety standards.



UL762 - MH9847

Type CUBA ventilators are UL762 Listed by Underwriters Laboratory Inc. to US safety standards.



American Coolair Corporation, ILG Industries certifies that the Type CUBA units 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 requirements of the AMCA Certified Ratings Program.

### **Guide Specifications**

Upblast power roof ventilators shall be of the CUBA centrifugal type as manufactured by ILG Industries of American Coolair Corporation (individual models to be listed in fan schedule). Units shall meet UL Standard 705 or 762 as required and shall bear the AMCA Certified Ratings Seal for air and sound performance. Housing and venturi inlet shall be one piece heavy gauge spun aluminum with wheel and venturi overlapping for efficient operation. Motor compartment cover shall be heavy gauge spun aluminum construction and easily removable for access to motor and drive. Base, motor compartment disc and support pipes shall be heavy gauge steel.

Drive construction shall be of the ILG "C-Drive" design consisting of static shaft/bearing arrangement mounted in a machined cast aluminum disc assembly. The disc assembly shall be mounted onto the backplate of the centrifugal wheel. The centrifugal wheel shall be heavy gauge aluminum with backward-inclined, non-overloading blades and be computer balanced.

Bearings shall have a calculated L10 bearing life in excess of 1,000,000 hours.

Motor shall be open drip-proof construction, NEMA design B with minimum service factor of 1.15. Adjustable motor pulley shall be provided to allow for field adjustment and system balance. Motor shall be mounted on a steel mounting bracket with single bolt adjustment. Motor shall be mounted with the shaft down to allow easy access to the electrical wiring terminal board/circuit box.

(Safety disconnect switch, backdraft damper, epoxy coating, roof curb and other accessories shall be listed in the fan schedule).

# **CUBA12 Performance Data**

				at Stat	ic Pre							/I Ran	-	
0.00	.125	.250	.375	.500	.750	1.00	1.25	1.50	2.00			tor HF	)	RPM
BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	1/4 L	1/4 H	1/3 1	/2 3/4	
1222	1121	1024	915	781										4070
0.10 6.7	0.11 6.6	0.11 6.2	0.12 5.8	0.12 5.6										1072
1275	1178	1086	985	867										4440
0.11 7.4	0.12 7.2	0.13 6.9	0.13 6.5	0.14 6.2										1119
1329	1235	1147	1052	945										1166
0.12 8.0			0.15 7.1	0.15 6.8										1100
1381	1290	1206	1117	1017										1212
<b>-</b>		0.16 8.2	-	0.17 7.4										1212
1435	1347	1266	1181	1088	845									1259
		0.18 8.9		0.19 8.2										1233
1487	1402	1324	1243	1156	942									1305
			0.20 9.4											1303
1541	1458	1382	1306	1223	1029									1352
			0.23 10.1		0.24 9.0									1002
1594	1515	1441	1367	1289	1110									1399
			0.25 11.0											1000
1647	1569	1498	1427	1352	1185	955								1445
			0.27 11.9											1440
1700	1625	1555	1487	1416	1258	1057								1492
			0.30 12.7											1402
1754	1681	1613	1547	1479	1329	1148								1539
			0.32 13.5											
1806	1735	1669	1605	1539	1396	1230	990							1585
			0.35 14.2				ļ							
1860	1791	1726	1663	1600	1464	1309	1105							1632
			0.38 15.0											
1912	1845	1781	1721	1660	1529	1383	1202							1678
			0.41 15.8					4050						l
1966	1900	1838	1779	1720	1595	1456	1292	1053						1725
2020	1955	1895	1837	1780	0.48 15.7 1659	1527	0.50 14.6 1375							
							0.54 15.3	1175						1772
2072	2009	1950	1893	1838	1721	1594	1453	1276						
							0.59 16.0							1818
2126	2064	2006	1951	1896	1784	1663	1528	1369						
-							0.63 16.8							1865
2178	2118	2061	2007	1954	1845	1728	1600	1454						
							0.68 17.5							1911
2232	2173	2117	2064	2012	1907	1794	1672	1535						
0.58 21			0.64 21				0.72 18.3							1958
2285	2228	2174	2121	2070	1968	1859	1742	1613	1253					
0.62 22	0.65 22		0.68 22	0.70 21	0.73 21			0.79 18.6		ł				2005
2338	2282	2228	2177	2127	2028	1922	1810	1687	1368					
	-					-		0.84 19.5		ł				2051
0.01 23	0.09 23	0.71 23	0.13 23	0.70 22	U.11 22	U.UU 21	0.02 20	0.04 19.5	0.02 13.0					

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings (BHP) do not include drive losses. Bearing losses are included.

# **CUBA13 Performance Data**

					C	FM	at S	Stat	ic I	Pre	ssu	re							R	PM I	Rang	je	
0.00		125		250		75		00		50		00		25		50		00		Moto	r HF	)	RPM
BHP Sor	ne BH	P Sone	BHP	Sone	BHP	Sone	1/4	1/3	1/2	3/4													
1617		524		129		35		39	9	53													4440
0.16 8.	9 0.1	7 8.2	0.18	8.0	0.19	7.8	0.20	7.5	0.20	6.7													1119
1685		596	15	506	14	13	13	24	10	83													4400
0.18 9.	8 0.1	9 9.0	0.20	8.8	0.22	8.6	0.23	8.4	0.23	7.6													1166
1752		665		580		89		05		91													4040
0.20 10	7 0.2	2 9.8	0.23	9.6	0.24	9.4	0.25	9.3	0.26	8.5													1212
1820		736		655	_	67		85		293													1259
0.23 11	6 0.2	4 10.8	0.25	10.5	0.27	10.3	0.28	10.2	0.29	9.5													1259
1886		805		728		43		63		89		40											4205
0.25 12	6 0.2	7 11.7	0.28	11.4	0.29	11.2	0.31	11.1	0.32	10.5	0.32	9.7											1305
1954		876		301		20		41		82		64											4250
0.28 13	7 0.3	0 12.7	0.31	12.4	0.32	12.2	0.34	12.1	0.36	11.6	0.36	10.8											1352
2022		946		374		97		19	-	70	_	74											1399
0.31 14	5 0.3	3 13.5	0.34	13.1	0.35	12.9	0.37	12.8	0.39	12.4	0.40	11.7											1399
2089		2015		945		72		95		552		75		32									1445
0.34 15	2 0.3	6 14.2	0.37	13.8	0.39	13.6	0.40	13.4	0.43	13.2	0.44	12.4	0.43	11.7									1445
2157		2085		017	-	47	_	72		'34	_	73		64									1492
0.38 15	9 0.3	9 14.9	0.41	14.5	0.42	14.3	0.44	14.2	0.47	13.9	0.48	13.2	0.48	12.6									1492
2225		2155		089	-	22		50		14		68		79									1539
0.41 16	6 0.4	3 15.6	0.45	15.2	0.46	15.0	0.48	14.9	0.51	14.7	0.53	14.1	0.53	13.6									1539
2291		2224		159		95		25		92		56		83	_	56							1585
0.45 17	3 0.4	7 16.4	0.49	15.9	0.50	15.7	0.52	15.6	0.55	15.3	0.57	15.0	0.58	14.5	0.57	13.8							1505
2359		2293		231		69		02		70		43		84		88							1632
0.49 18													0.63	15.5	0.63	14.9							1032
2425		2362		301		40	21			47		24		79		02							1678
0.54 18															0.68	15.9							10/0
2493		2431		372		13		52		24		06		73		09							1725
0.58 19																							1725
2561		2501		142		86		27		202		86		63		11							1772
0.63 20	0.6	5 19.2	0.67	18.7	0.69	18.5	0.71	18.4	0.74	18.5	0.77	18.4	0.80	18.2	0.81	17.9							1//2

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings (BHP) do not include drive losses. Bearing losses are included.

# **CUBA15 Performance Data**

			CFM	at Stat	ic Pre	ssure				RPM	Rang	ge	
0.00	.125	.250	.375	.500	.750	1.00	1.25	1.50	2.00	Mo	tor HF	•	RPM
BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	1/3 1/2	3/4	1	
2188	2101	1967	1835	1722	1395								1119
0.27 10.1	0.29 9.4	0.31 9.5	0.32 9.2	0.33 8.5	0.33 8.2								1119
2280	2197	2077	1939	1835	1533								1166
0.31 10.8	0.33 10.2	0.35 10.3	0.36 10.1	0.37 9.3	0.38 9.1								1100
2370	2291	2183	2041	1940	1667	1361							1212
	0.37 10.9	0.39 11.0	0.40 10.9	0.42 10.3	0.42 9.8	0.42 9.4							1212
2462	2386	2288	2148	2045	1804	1512							1259
<del></del>			0.45 11.8										1233
2552	2479	2388	2255	2147	1937	1649							1305
			0.50 12.7										1303
2644	2574	2489	2365	2251	2062	1787	1511						1352
					-	0.59 12.3							1332
2736	2668	2589	2476	2356	2179	1923	1664						1399
			-			0.65 13.3							1000
2826	2761	2686	2583	2460	2286	2058	1802	1514					1445
						0.72 14.0							1445
2917	2854	2784	2690	2569	2393	2194	1940	1693					1492
						0.79 14.7							1432
3009	2948	2881	2795	2679	2498	2323	2077	1842					1539
						0.87 15.7	_	0.87 15.2					1555
3099	3040	2976	2896	2788	2600	2442	2211	1981					1585
0.78 19.5	0.80 18.7	0.83 18.3	0.85 18.3	0.88 18.4		0.94 16.8	0.95 17.0	0.95 16.6					1505
3191	3134	3072	2998	2898	2704	2555	2349	2119					1632
0.85 21	0.88 19.8					1.03 18.1							1032
3281	3225	3166	3096	3004	2806	2662	2481	2252	1790				1678
0.93 22	0.95 21	0.98 20	1.00 20	1.03 21	1.08 21	1.11 19.4	1.13 18.5	1.12 19.1	1.11 18.7				10/0

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings (BHP) do not include drive losses. Bearing losses are included.

# **CUBA16 Performance Data**

			CFM	at Stat	ic Pre	ssure					RPI	И Ra	nge	
0.00	.125	.250	.375	.500	.750	1.00	1.25	1.50	2.00		Mo	otor F	HP	RPM
BHP Sone	1/3	1/2	3/4	1 11/	2									
2628	2432	2281	2156	2009	1407									040
0.28 10.3	0.30 9.7	0.32 9.3	0.33 9.3	0.34 8.9	0.30 7.7									918
2731	2541	2391	2270	2138	1678									0.54
0.32 11.0	0.34 10.3	0.35 10.0	0.36 10.0	0.37 9.7	0.36 8.6									954
2837	2653	2503	2386	2264	1895									
0.36 11.7	0.38 11.1	0.39 10.8	0.41 10.8	0.42 10.6	0.42 9.5									991
2943	2765	2616	2500	2387	2075	1341								4000
0.40 12.5	0.42 11.9	0.44 11.5	0.45 11.6	0.46 11.5	0.48 10.4	0.39 9.4								1028
3046	2873	2726	2610	2503	2229	1657								4004
0.44 13.3	0.47 12.6	0.48 12.4	0.50 12.5	0.51 12.4	0.53 11.5	0.48 10.3								1064
3152	2984	2839	2723	2620	2374	1933								4404
0.49 14.2	0.52 13.4	0.53 13.2	0.55 13.3	0.56 13.3	0.58 12.6	0.56 11.4								1101
3258	3095	2952	2836	2735	2511	2154	1391							4400
0.54 15.1	0.57 14.3	0.59 14.1	0.60 14.2	0.62 14.2	0.64 13.6	0.64 12.4	0.51 11.5							1138
3361	3202	3061	2945	2846	2638	2335	1721							4474
0.59 16.1	0.62 15.2	0.64 14.9	0.66 15.0	0.67 15.1	0.70 14.7	0.71 13.5	0.62 12.4							1174
3467	3313	3174	3058	2960	2764	2500	2021							4044
0.65 17.1	0.68 16.2	0.70 15.9	0.72 16.0	0.73 16.1	0.76 15.8	0.78 14.7	0.73 13.5							1211
3573	3423	3287	3170	3073	2887	2651	2270	1537						4040
0.71 18.0	0.74 17.2	0.77 16.9	0.79 16.9	0.80 17.0	0.83 16.9	0.85 16.0	0.83 14.6	0.67 13.8						1248
3679	3533	3399	3283	3186	3007	2793	2476	1877						4005
0.78 19.0	0.81 18.2	0.83 17.8	0.85 17.8	0.87 17.9	0.90 17.9	0.92 17.2	0.92 15.9	0.81 14.8						1285
3782	3640	3508	3393	3295	3122	2924	2650	2172						4004
0.84 20	0.88 19.2	0.90 18.8	0.93 18.7	0.94 18.9	0.97 18.9	1.00 18.3	1.01 17.2	0.94 15.9						1321
3888	3749	3620	3506	3408	3238	3054	2813	2430						40.50
0.92 21	0.95 20	0.98 19.9	1.00 19.7	1.02 19.9	1.05 20	1.08 19.5	1.10 18.5	1.06 17.2						1358
4051	3918	3793	3680	3581	3416	3247	3041	2749	1508					4445
1.04 23	1.07 22	1.10 22	1.13 21	1.15 21	1.18 22	1.21 21	1.24 21	1.23 19.3	0.90 17.3					1415
4157	4027	3904	3793	3694	3530	3369	3179	2926	1880					4450
1.12 24	1.16 23	1.19 23	1.21 22	1.24 23	1.27 23	1.30 23	1.33 22	1.34 21	1.09 18.4					1452
4263	4136	4016	3905	3807	3643	3489	3312	3087	2212					4400
1.21 25	1.25 24	1.28 24	1.31 24	1.33 24	1.36 24	1.40 24	1.43 23	1.45 22	1.27 19.7					1489
4372	4247	4130	4021	3923	3759	3610	3445	3241	2521					4505
1.30 26	1.34 25	1.38 25	1.41 25	1.43 24	1.47 25	1.50 25	1.53 24	1.56 23	1.45 21					1527
4478	4356	4241	4133	4036	3872	3727	3570	3384	2780					4504
1.40 27	1.44 26	1.48 26	1.51 25	1.53 25	1.57 26	1.60 26	1.64 25	1.67 25	1.61 22					1564

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings (BHP) do not include drive losses. Bearing losses are included.

# **CUBA18 Performance Data**

			CFM	at Stat	tic Pre	ssure					RPI	И Ra	nge		
0.00	.125	.250	.375	.500	.750	1.00	1.25	1.50	2.00		Mo	otor I	HP		RPM
BHP Sone	1/2	3/4	1	1 1/2	2										
3344	3153	2924	2757	2568	2061										- 10
0.43 10.6	0.45 10.1	0.46 9.5	0.47 9.4	0.48 9.2	0.46 8.4										918
3476	3296	3067	2906	2725	2319										
0.48 11.3	0.50 10.8	0.51 10.2	0.52 10.2	0.54 10.1	0.53 9.3										954
3610	3441	3214	3055	2887	2533	1802									
0.54 12.1	0.56 11.6	0.57 11.0	0.58 11.0	0.60 10.9	0.60 10.3	0.53 9.1									991
3745	3585	3363	3202	3047	2715	2127									
0.60 13.1	0.63 12.4	0.64 12.0	0.65 11.8	0.66 11.9	0.67 11.3	0.62 10.2									1028
3876	3723	3509	3344	3200	2879	2410									
0.67 14.0	0.70 13.4	0.71 12.9	0.72 12.7		0.75 12.3	0.72 11.4									1064
4011	3865	3660	3490	3353	3043	2674	1948								
0.74 15.0	0.77 14.3	0.78 13.8	0.79 13.6	0.80 13.6	0.83 13.3	0.81 12.6	0.72 11.2								1101
4146	4006	3812	3636	3503	3204	2892	2284								
0.82 16.0	0.85 15.3	0.86 14.8	0.87 14.5	0.88 14.6	0.92 14.4	0.91 13.7	0.84 12.5								1138
4277	4143	3959	3778	3646	3362	3074	2575	1781							
0.90 17.0	0.93 16.4	0.95 15.9	0.96 15.6	0.97 15.5	1.00 15.5	1.00 14.9	0.95 13.8	0.80 12.5							1174
4412	4283	4109	3925	3792	3524	3246	2853	2181							
0.99 18.0	1.02 17.4	1.04 16.9	1.05 16.6	1.06 16.5	1.09 16.6	1.10 16.0	1.07 15.2	0.96 13.6							1211
4612	4490	4331	4147	4009	3762	3490	3198	2662							
1.13 19.7	1.16 19.0	1.18 18.5	1.19 18.1	1.20 17.9	1.24 18.1	1.26 17.7	1.25 17.1	1.17 15.9							1266
4747	4629	4479	4297	4155	3919	3652	3390	2951							
1.23 21	1.26 20	1.29 19.7	1.30 19.2	1.31 19.0	1.34 19.2	1.38 18.9	1.37 18.3	1.31 17.3							1303
4882	4768	4625	4448	4301	4072	3814	3565	3219	1845						
1.33 22	1.37 21	1.40 21	1.41 20	1.42 20	1.45 20	1.49 20	1.49 19.6	1.46 18.8	1.13 16.4						1340
5020	4910	4774	4604	4452	4226	3980	3737	3454	2314						
1.45 23	1.49 23	1.52 22	1.54 22	1.55 21	1.57 21	1.62 21	1.63 21	1.60 20	1.37 17.4						1378
5155	5048	4919	4755	4600	4375	4142	3900	3652	2674						
1.57 24	1.61 23	1.64 23	1.66 22	1.67 22	1.70 22	1.74 22	1.76 22	1.75 21	1.57 18.7						1415
5290	5186	5062	4906	4749	4522	4302	4062	3832	2993						
1.70 25	1.74 24	1.77 24	1.79 23	1.80 23	1.83 23	1.87 23	1.90 23	1.90 22	1.76 20	1					1452
5425	5324	5205	5056	4899	4668	4460	4223	4002	3288						
1.83 26	1.87 25	1.91 25	1.93 24	1.94 24	1.97 24	2.01 24	2.05 24	2.05 23	1.94 21						1489
5563	5465	5351	5210	5054	4817	4618	4390	4171	3574						
1.98 27					2.12 24		2.20 25		2.14 23	1					1527

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings (BHP) do not include drive losses. Bearing losses are included.

# **CUBA21 Performance Data**

	CFM at Static Pressure           0.00         .125         .250         .375         .500         .750         1.00         1.25         1.50         2.00           IP Sone BHP														
0.00									2.00			otor I	ΗP	RP	PM
BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	1/2	3/4	1	1 1/2	2	
3857	3620	3383	3189	2931	2092										
0.41 10.8	0.43 9.8	0.45 9.4	0.46 9.1	0.47 8.6	0.43 7.3									77	/1
4037	3812	3580	3390	3185	2485										
0.47 11.6	0.49 10.7	0.51 10.2	0.52 10.0	0.54 9.6	0.52 8.6									80	)/
4222	4008	3783	3594	3415	2801									-	
0.53 12.5	0.56 11.5	0.58 11.1	0.59 11.0	0.61 10.7	0.61 10.1									84	14
4407	4203	3986	3797	3630	3091	2295								0.0	
0.61 13.5	0.64 12.5	0.66 12.0	0.67 12.1	0.69 11.9	0.70 11.4	0.63 9.8								88	37
4593	4397	4189	3999	3838	3383	2733								- 04	40
0.69 14.5	0.72 13.4	0.74 12.9	0.76 13.1	0.77 13.1	0.80 12.3	0.76 11.1								91	ıø
4773	4585	4385	4196	4037	3662	3066								0.5	- 4
0.77 15.6	0.80 14.4	0.83 14.0	0.84 14.1	0.86 14.2	0.89 13.4	0.88 12.8								95	)4
4958	4778	4586	4399	4240	3918	3365	2645							-	
0.86 16.7	0.90 15.6	0.92 15.1	0.94 15.1	0.96 15.3	0.99 14.7	0.99 14.3	0.91 12.6							99	11
5143	4970	4785	4603	4443	4149	3653	3073							40	
0.96 17.8	1.00 16.7	1.03 16.2	1.05 16.2	1.07 16.4	1.10 15.9	1.11 15.5	1.07 14.2							102	28
5403	5239	5064	4888	4727	4451	4065	3539	2824						40	
1.12 19.4	1.16 18.3	1.19 17.8	1.21 17.7	1.23 17.8	1.27 17.8	1.30 17.0	1.28 16.6	1.16 15.1						108	80
5588	5430	5262	5090	4930	4660	4339	3833	3270						44.	47
1.24 20	1.28 19.5	1.31 18.9	1.33 18.7	1.35 18.9	1.39 19.0	1.43 18.2	1.42 17.9	1.35 16.6						111	17
5773	5620	5459	5292	5133	4865	4586	4121	3631						119	F 4
1.36 22	1.41 21	1.44 20	1.47 19.8	1.49 20	1.53 20	1.57 19.6	1.58 19.2	1.54 18.4						113	54
5958	5810	5655	5493	5336	5069	4814	4415	3941	2338					440	04
1.50 23	1.54 22	1.58 21	1.61 21	1.63 21	1.67 22	1.71 21	1.74 20	1.72 20	1.36 18.8					119	91
6148	6005	5855	5699	5545	5277	5036	4708	4240	3006				I	122	20
1.65 24	1.69 23	1.73 23	1.76 22	1.78 22	1.83 23	1.87 23	1.91 22	1.90 21	1.66 19.4					124	29
6333	6194	6049	5898	5748	5479	5247	4969	4529	3503				I	120	66
1.80 25	1.85 24	1.89 24	1.92 23	1.94 23	1.99 24	2.04 24	2.08 23	2.08 22	1.92 21					120	90
6519	6384	6243	6097	5950	5682	5454	5209	4823	3914					130	02
1.96 26	2.01 25	2.05 24	2.09 24	2.11 24	2.16 25	2.21 25	2.25 24	2.27 23	2.18 22					130	US

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings (BHP) do not include drive losses. Bearing losses are included.

# **CUBA24 Performance Data**

			CFM at Static Pressure								RPM		_			l <b>_</b> -		
0.0		.125	.250	.375	.500	.750	1.00	1.25	1.50	2.00				tor F				RPM
BHP	Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	1/3	1/2	3/4	1	1 1/2	2	3	li .
40		3669	3189	2398														534
0.27	7.2	0.29 6.8	0.29 6.3	0.28 6.0														334
41		3851	3399	2794														556
0.30	7.8	0.32 7.4	0.33 6.9	0.32 6.5														550
43		4040	3626	3121														579
0.34	8.5	0.36 8.0		0.37 7.1														0.0
	31	4220	3844	3379														601
0.38	9.1	0.41 8.7	0.42 8.1	0.42 7.7														
	96	4399	4055	3606	2894													623
0.43	9.7	0.45 9.4	0.46 8.8	0.46 8.3	0.45 8.1													023
48	-	4577	4256	3820	3273													645
0.48	10.4	0.50 10.1	0.51 9.5	0.51 9.0	0.51 8.7													040
50		4763	4457	4039	3596										Ī		I	668
0.53	11.2	0.56 10.8	0.57 10.3	0.57 9.7	0.57 9.3												]	
53	-	5115	4830	4469	4090													712
0.64	12.7	0.67 12.4	0.68 11.9	0.69 11.3	0.69 10.8													112
55	41	5298	5022	4698	4317													725
0.70	13.6	0.74 13.3	0.75 12.8	0.76 12.2	0.76 11.7													735
57	89	5559	5295	5013	4632	3638							П					700
0.80	14.8	0.84 14.5	0.85 14.1	0.87 13.5	0.87 12.9	0.84 12.3												768
61		5913	5665	5415	5069	4338												040
0.95	16.4	1.00 16.2	1.01 15.8	1.03 15.3	1.03 14.7	1.03 14.0												813
62		6085	5846	5603	5289	4610							П					
1.03	17.2				1.11 15.6	1.12 14.8												835
64		6265	6033	5798	5515	4865	3631											
					1.21 16.5		1.13 15.2											858
68		6616	6399	6173	5937	5314	4482							$\exists$				
1.30	19.7				1.41 18.3		1.38 16.8											903
69		6795	6585	6364	6141	5534	4834							$\exists$				
					1.52 19.3													926
71		6965	6762	6546	6332	5744	5128							$\exists$				
					1.62 20			+										948
73		7143	6947	6735	6528	5965	5402	4300					H	$\dashv$				
					1.74 21				1									971
74		7321	7130	6924	6722	6191	5652	4742						$\dashv$				1
1.74		1.80 24	1.84 24	1.85 23	1.86 23	1.87 21		1.82 19.5										994
76		7491	7306	7105	6906	6411	5875	5114										
1.86		1.92 24	1.96 24	1.97 24	1.99 24		2.02 21	1.98 20										1016
78		7668	7489	7293	7098	6639	6100	5457						-				
1.99				2.11 25			2.15 22											1039
79		7838	7663	7472	7280	6853	6312	5747	4656					_				
79 2.12			2.23 27	2.24 26		2.29 24	-		2.16 22									1061
			· · · · · · · · · · · · · · · · · · ·			7271							$\vdash$	$\dashv$				1
83		8184	8018	7838	7652		6741	6262	5490									1106
2.40			2.52 29		· · · · · · · · · · · · · · · · · · ·		2.58 25	2.60 24	2.54 23				$\vdash$	$\dashv$				
86		8537	8380	8209	8030	7677	7191	6727	6164									1152
2.71		2.79 31	-	-	2.87 31		2.92 27		2.93 25				$\vdash$	$\dashv$				
	50	8706	8552	8386	8211	7865	7411	6940	6439		i	1	1					1174

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power ratings (BHP) do not include drive losses. Bearing losses are included.

The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are

for installation Type A: free inlet fan sone levels.

# FEATURES CUDA Units

Safety disconnect device is standard.

**Direct drive assembly** reduces maintenance and operating costs.

Line bore hub eliminates the need for a bushing, and has wheel puller provisions

Weather-resistant motor compartment cover of spun aluminum removes easily for access to motor and drive.

Out-of-airstream open motors are isolated for protection from exhaust airstream.

Overlapping wheel and deep-spun venturi minimize noise and air turbulence, increasing efficiency.

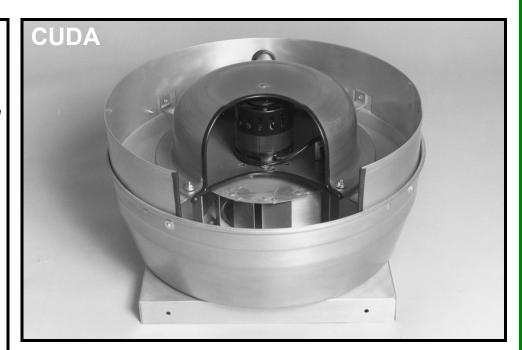
Aluminum centrifugal wheel is a nonoverloading, backwardinclined design and is computer balanced.

Permanently affixed wheel balance weights assure vibration-free operation.

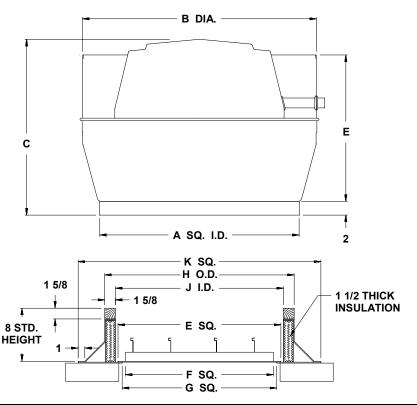
Wheel backplate fins cool the motor compartment, extending motor life.

**AMCA Seal** assures certified rating of air and sound performance.

**UL Listed** for Standard 705.



# CUDA Ventilator, Roof Curb and Damper Dimensions



Lloit		Ventilato	r Dimens	ions	R	oof C	urb and [	Damper D	Dimensior	าร
Unit	Α	В	С	D	Е	F	G	Н	J	K
06-10	18	23	14 1/8	11 1/8	12 1/2	10	11 1/4	16 1/2	13 1/4	24 1/2
12E10,12J16 13F11,13J15 15H10,15K15	26	29 1/4	19	22	20 1/2	18	19 1/4	24 1/2	21 1/4	32 1/2
12J17,13K17 15L17	26	29 1/4	24 1/4	22	20 1/2	18	19 1/4	24 1/2	21 1/4	32 1/2
16-20	30	35 1/4	26 3/8	22	24 1/2	22	23 1/4	28 1/2	25 1/4	36 1/2
									Dimension	ns in inches

Dimensions in inches

### **CUDA**

### **Direct Drive Centrifugal Upblast Power Roof Ventilators**

### **Applications**

The CUDA units are quiet, dependable upblast power roof ventilators recommended for a wide range of general exhaust applications where low and medium ranges of air volume and pressure are specified. Applications include virtually all types of light manufacturing, commercial and institutional buildings such as shopping centers, hospitals, schools, hotels, office and apartment buildings, warehouses, airports, bus terminals and many others.

CUDA units are specified where vertical discharge of exhaust air is desired to eliminate interference with other equipment or activities in the building. They permit the direct upward venting of overheated air. CUDA units may be used with or without ducts.

The advantages of a CUDA direct drive over a belt drive roof ventilator include lower maintenance requirements, reduced risks of lower performance levels as a result of loosened belts, and lower operating costs.

#### Construction

CUDA models feature a housing of durable spun aluminum for optimum weather protection. The overlapping deep-spun venturi minimizes air turbulence and increases efficiency.

The aluminum centrifugal wheel is a non-overloading, backward-inclined type, selected for low noise levels. Backplate fins draw cool air through the motor compartment. The wheel is secured to the machined aluminum hub, and computer balanced on state-of-the-art equipment. The hub features a line bore, which eliminates the need for bushings.

Neoprene vibration isolators to reduce noise and wear and a safety disconnect device with a mounted and wired junction box are all standard.

#### **Drive Mechanism**

CUDA models have all the advantages of a direct drive assembly. There are no belts, bearings or pulleys to consume power or require maintenance.

#### **Motors**

The standard motor for CUDA models is open construction, located out of the airstream. Totally enclosed, energy efficient, two-speed and explosion-proof motors may also be available. All motor brands are recognized and serviced nationwide. Motor enclosure may affect UL Listing.



UL705 - E39944

Type CUDA ventilators are Listed by Underwriters Laboratory Inc. to US and Canadian safety standards.



A merican Coolair Corporation, ILG Industries certifies that the Type CUBA units 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 requirements of the AMCA Certified Ratings Program.

### Guide Specifications

Upblast power roof ventilators shall be of the CUDA centrifugal type as manufactured by ILG Industries of American Coolair Corporation (individual models to be listed in fan schedule). Units shall meet UL Standard 705 and shall bear the AMCA Certified Ratings Seal for air and sound performance. Housing and venturi inlet shall be one piece heavy gauge spun aluminum with wheel and venturi overlapping for efficient operation. Motor compartment cover shall be heavy gauge spun aluminum construction and easily removable for access to motor.

Drive construction shall be of the direct drive design. The line bore hub shall be mounted onto the backplate of the centrifugal wheel. The centrifugal wheel shall be heavy gauge aluminum with backward-inclined, non-overloading blades and be computer balanced.

Motor shall be open construction, NEMA design B. Optional variable speed control on some models allows for field adjustment and system balance. The unit shall be equipped with a safety disconnect device.

(Backdraft damper, epoxy coating, roof curb and other accessories shall be listed in the fan schedule).

# **CUDA06 - CUDA10 Performance Data**

<b>CUDA</b>	06		CFM	at Stat	ic Pres	sure		RPM RANG	E OF SELECTI	ED MODELS	
0.00	.125	.250	.375	.500	.625	.750	1.00	CUDA06A11	CUDA06C16	CUDA06E16	RPM
BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	1/25 HP	1/13 HP	1/10 HP	
183											550
0.01 0.6											330
266	180										800
0.01 2.3	0.01 1.3										800
315	251	141									950
0.01 3.4	0.01 2.6	0.01 2.1									330
365	309	235 133									1100
0.02 4.7	0.02 4.2	0.02 3.6	0.02 3.2								1100
415	364	315	226	137							1250
0.03 6.5	0.03 6.1	0.03 5.5	0.03 5.1	0.03 4.7							1230
465	420	377	320	234	155						1400
0.04 7.8	0.04 7.3	0.04 6.7	0.04 6.4	0.04 6.1	0.04 7.6						1400
531	493	453	415	360	283	218					1600
0.05 10.1	0.05 9.4	0.06 8.8	0.06 8.1	0.06 7.9	0.06 7.6	0.06 7.6					1000
548	511	471	436	388	315	248					1650
0.06 10.8	0.06 10.1	0.06 9.4	0.07 8.8	0.07 8.6	0.07 8.2	0.07 8.2					1000

<b>CUDA</b>	08		CFM	at Stat	ic Pres	sure		RPM RANG	E OF SELECTE	ED MODELS	
0.00	.125	.250	.375	.500	.625	.750	1.00	CUDA08A11	CUDA08C15	CUDA08E16	RPM
BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	BHP Sone	1/25 HP	1/13 HP	1/10 HP	
233											550
0.00 0.5											330
339	256										800
0.01 2.2	0.01 1.3										000
402	332	222									950
0.01 3.4	0.01 2.5	0.02 2.2									300
466	408	342 209								1100	
0.02 4.6	0.02 4.1	0.02 3.9	0.02 3.7								1100
530	480	424	342	215							1250
0.03 6.3	0.03 5.9	0.03 5.8	0.04 5.6	0.03 5.4							1230
593	549	498	452	360	244						1400
0.04 7.6	0.04 7.2	0.05 7.0	0.05 6.8	0.05 6.7	0.04 6.5						1400
657	617	574	529	480	390	289					1550
0.06 8.9	0.06 8.6	0.06 8.1	0.06 8.2	0.07 8.0	0.07 7.9	0.06 7.9					1000
678	639	599	553	512	431	343					1600
0.06 9.4	0.06 9.1	0.07 8.6	0.07 8.7	0.07 8.5	0.08 8.3	0.07 8.3					1000

CU	DA	10				С	FΜ	at S	Stat	ic F	res	sui	re			RPM RANG	SE OF SELECTI	ED MODELS	
0.0	00	.12	25	.2	50	.37		.50		.6			50	1.	00	CUDA10A11	CUDA10C15	CUDA10E15	RPM
BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	1/25 HP	1/13 HP	1/10 HP	
29	9																		550
0.00	0.2																		330
43	35	35	0																800
0.01	1.8	0.01	1.1																000
51	17	45	450 344 0.02 2.5 0.02 4																950
0.02	2.9	0.02	2.5	0.02														950	
59	8	54	16	47	72	35	55												1100
0.03	4.7	0.03	4.4	0.03	3.6	0.03	3.1												1100
68	30	63	7	57	75	50	)1	38	36										1250
0.04	6.8	0.04	6.5	0.05	5.9	0.05	5.2	0.05	4.8										1230
76	32	72	25	67	73	61	16	54	10	43	34								1400
0.05	8.1	0.05	7.8	0.06	7.4	0.07	6.6	0.07	6.2	0.07	5.7								1400
81	16	78	3	73	37	68	34	62	25	542									1500
0.06	8.9	0.07	8.7	0.07	8.4	80.0	7.7	80.0	7.2	80.0	6.7								1500
84	13	81	1	76	86	71	7	66	3	59	90	49	95						1550
0.07	9.4	0.07	9.1	80.0	8.9	0.09	8.3	0.09	7.7	0.09	7.2	0.09	6.8						1550

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstreal. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels.

Values shown are for installation Type A: free inlet fan sone levels AMCA Certified Ratings apply to the CUDA Roof Ventilator constant speed fans and not variable speed fans

# **CUDA12 - CUDA13 Performance Data**

									<del></del>			<u> </u>		<u> </u>				
CUDA	\1 <u>2</u>				C	FΜ	<u>at</u> :	Stat	ic F	<u>re</u> s	sui	re			RPM RANG	E OF SELECT	TED MODELS	
0.00	.12	25	.2	50	.37	75	.5	00	.6	25	.7	50	1.0	00	CUDA12E10	CUDA12J16	CUDA12J17*	RPM
BHP Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	1/8 HP	1/2 HP	1/2 HP	
566	39	3																550
0.01 1.8	0.01	1.3																550
669	53	1																650
0.02 2.7	0.02	2.7																030
772	65	7	51	10														750
0.03 3.8	0.03	3.8	0.04	3.0														700
874	77	<b>'</b> 4	65	58	48	38												850
0.04 5.0	0.05	4.9	0.05	4.5	0.05	3.8												000
977			79	91	67	76												950
0.06 6.1	0.06	5.9	0.07	6.0	0.07	5.2												330
1054	97	'2	88	85	78	34	6	54										1025
0.07 6.9	0.08	6.8	0.09	7.0	0.09	6.4	0.09	5.7										1020
1183	110	09	10	35	95	51	8	58	7	40								1150
0.10 8.4	0.11	8.2	0.12	8.4	0.12	8.3	0.13	7.6	0.13	7.0								1100
1337	127			07	11			61		80		34						1300
0.15 10.2	0.16	10.0	0.17	10.2	0.17	10.5	0.18	10.1	0.19	9.4	0.19	8.9						1000
1492	143		-	74	13			253		82	11		-	26				1450
0.20 12.4	0.21	12.1	0.22	12.3	0.23	12.6	0.24	12.7	0.25	12.3	0.26	11.7	0.26	10.7				1400
1646	159	93	15	40	14	87	14	32	13	74	13	10	11	76				1600
0.27 14.7	0.28	14.5	0.30	14.5	0.31	14.8	0.32	15.1	0.33	15.2	0.34	14.9	0.35	13.9				1000
1739	168		-	38	15			37		84	1427		_	02				1690
0.32 16.3	0.33	16.0	0.35	16.0	0.36	16.3	0.37	16.6	0.38	16.9	0.39	16.8	0.41	15.8				
1775	172		-	76	16			77	_	26	14		_	49				1725
0.34 16.9	0.35	16.6	0.37	16.6	0.38	16.8	0.39	17.2	0.40	17.5	0.41	17.5	0.43	16.6				1,23

CU	DA	13				С	FΜ	at S	Stat	ic F	res	sui	re			RPM RANG	E OF SELECTI	ED MODELS	
0.0	00	.13	25	.2	50	.3	75	.5	00	.6	25	.7	50	1.0	00	CUDA13F11	CUDA13J15	CUDA13K17*	RPM
BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	1/5 HP	1/2 HP	3/4 HP	
76	3	56	66																550
0.02	1.9	0.02	1.0																550
93	6	78	34	58	<b>80</b>														675
0.03	3.1	0.04	2.4	0.04	1.8														6/5
110	09	97	77	84	45	64	11												800
0.06	4.5	0.07	3.7	0.07	3.3	0.07	2.9												800
12	48	11	29	10	20	87	73	66	63										900
0.08	5.6	0.09	4.9	0.10	4.6	0.10	4.2	0.10	.10 3.8										300
13	87	12	79	11	80	10	73	92	924		16								1000
0.11	6.7	0.12	6.2	0.13	5.8	0.14	5.6	0.14	5.2	0.13	4.9								1000
150	60	14	63	13	72	12	87	11	82	10	48	88	88						1125
0.16	8.3	0.17	8.0	0.19	7.5	0.20	7.4	0.20	7.1	0.20	6.7	0.19	6.4						1120
17	33	16	46	15	62	14	84	14	05	13	07	11	86	82	21				1250
0.22	10.2	0.24	9.9	0.25	9.4	0.26	9.1	0.27	9.1	0.27	8.8	0.27	8.4	0.24	7.8				1230
18	72	17	91	17	12	16	38	15	67	14	90	13	93	11	60				1350
0.28	11.9	0.29	11.7	0.31	11.2	0.33	10.8	0.33	10.7	0.34	10.6	0.34	10.3	0.34	9.5				1330
204	45	19	71	18	98	18	29	17	63	16	98	16	26	14	36				1475
0.36	13.6	0.38	13.4	0.40	13.0	0.42	12.5	0.43	12.2	0.44	12.2	0.44	12.1	0.45	11.5				1473
218	84	21	14	20	46	19	80	19	16	1855		17	94	16	41				1575
0.44	14.9	0.46	14.8	0.48	14.4	0.50	13.9	0.52	13.6	0.53	13.4	0.54	13.4	0.54	13.0				1373
24	27	23	63	23	02	22	41	21	82	21	26	20	71	19	58				1750
0.61	17.5	0.63	17.4	0.65	17.1	0.67	16.6	0.69	16.2	0.71	15.9	0.72	15.8	0.74	15.7				1730

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstreal The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels

\* - These models are not compatible with variable speed control

AMCA Certified Ratings apply to the CUDA Roof Ventilator constant speed fans and not variable speed fans

# **CUDA15 - CUDA 20 Performance Data**

					_						
CUDA	15		CFM a	t Static	Press	ure		RPM RANG	E OF SELECTE	ED MODELS	
0.00	.125	.250	.375	.500	.625	.750	1.00	CUDA15H10	CUDA15K15	CUDA15L17*	RPM
BHP Sone	1/3 HP	3/4 HP	1 HP								
1033	832										550
0.03 2.7	0.04 1.7										550
1221	1056	842									650
0.05 3.9	0.06 3.0	0.06 2.6									030
1409	1268	1110	885								750
0.08 5.1	0.09 4.3	0.10 3.8	0.10 3.5								700
1596	1473	1342	1184	969							850
0.12 6.4	0.13 5.7	0.14 5.2	0.14 5.0	0.14 4.6							000
1784	1675	1560	1435	1280	1083						950
0.17 7.9	0.18 7.1	0.19 6.8	0.20 6.4	0.20 6.3	0.20 5.9						300
2047	1952	1854	1752	1640	1509	1347					1090
0.26 10.3	0.27 9.5	0.28 9.1	0.29 8.7	0.30 8.4	0.30 8.4	0.30 8.1					1030
2160	2070	1978	1882	1780	1666	1529					1150
0.30 11.4	0.32 10.6	0.33 10.2	0.34 9.9	0.35 9.5	0.35 9.4	0.36 9.3					1100
2348	2265	2181	2094	2004	1908	1800	1527				1250
0.39 13.3			0.43 11.9				0.45 10.8				1200
2535	2459	2382	2302	2220	2135	2044	1829				1350
			0.54 13.4				l				.500
2676	2604	2531	2456	2379	2301	2218	2031				1425
		-	0.63 14.6			-					
2911	2845	2778	2709	2640	2569	2496	2340				1550
	-		0.80 16.8	-	-		<u> </u>				
3240	3180	3120	3059	2998	2935	2872	2740				1725
1.02 22	1.04 21	1.06 21	1.09 20	1.11 19.8	1.12 19.6	1.14 19.4	1.17 18.8				''23

CUDA	16		CFM a	t Static	Press	ure		RPM O	F SELECTED M	IODELS	
0.00	.125	.250	.375	.500	.625	.750	1.00	CUDA16J8*	CUDA16L11*	CUDA16N17*	RPM
BHP Sone	1/2 HP	1 HP	2 HP								
2187	2037	1884	1708	1523	1082						825
0.20 8.4	0.21 7.4	0.23 6.7	0.23 6.6	0.23 6.2	0.21 5.8						025
3075	2967	2862	2755	2644	2517	2394	2125				1160
0.55 15.9	0.57 15.0	0.60 14.1	0.62 13.3	0.63 12.9	0.64 12.9	0.65 12.9	0.65 12.0				1160
4640	4568	4496	4426	4356	4286	4216	4072				1750
1.90 30	1.93 29	1.96 29	1.99 28	2.03 27	2.06 27	2.09 26	2.14 25				1750

CU	DA	18				CFI	M at	t St	atic	Pr	ess	ure				RPM OF SELEC	CTED MODELS	
0.	00	.13	25 .250 .375 .500 .625 .750 1.		00	CUDA18J8*	CUDA18L11*	RPM										
BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	BHP Sone		Sone	1/2 HP	1 HP	
29	19	26	79	25	50	23	89	21	94	18	88	14	22					005
0.30	9.8	0.33	8.6	0.34	8.4	0.36	0.8	0.36	7.6	0.34	7.0	0.31	6.6					825
41	04	38	75	37	65	36	73	35	80	34	73	33	50	3069				1160
0.85	18.6	0.88	17.1	0.91	16.4	0.93	16.1	0.96	16.0	0.98	15.5	0.99	15.0	0.99	14.3			1160

CU	IDA	20				CFI	M a	t St	atic	Pr	ess	ure				RPM OF SELECTED MODEL	
0.	.00	.1:	25	.2	50	.3	75	.5	00	.6	25	.7	.750 1.00		1.00 CUDA20M11*		RPM
BHP	Sone	BHP	Sone	1-1/2 HP													
49	142	48	22	47	02	45	83	44	61	43	26	41	69	38	30		1160
1.28	22	1.33	19.9	1.36	19.0	1.39	19.2	1.41	19.6	1.43	19.4	1.44	18.9	1.46	18.8		1160

Performance shown is for Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances in the airstream 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 shown are for installation Type A: free inlet fan sone levels

\* - These models are not compatible with variable speed control
AMCA Certified Ratings apply to the CUDA Roof Ventilator constant speed fans and not variable speed fans

### Installation

All models are shipped fully assembled and ready for installation. Always inspect equipment for transit damage before accepting delivery to assure a valid claim. Special handling and storage procedures are required if unit is to remain idle for a long time prior to installation.

#### **Placement**

All belt-driven units must be accessibly installed for maintenance and servicing of belts, motors and pulleys.

### Mounting

Satisfactory operation of upblast power roof ventilators requires mounting on adequately designed and constructed roof curbs. Prefabricated curbs for convenience in installation are available from ILG. Install with base of unit horizontal. Provide adequate caulking, flashing or other weather-proofing means.

### Inspection

Check centrifugal wheel for free rotation.

Check belt for proper tension. (CUBA)

**Check motor and fan sheave faces** for proper alignment. (CUBA)

Check circuit phase, voltage and wiring connection against that shown on motor nameplate.

Check direction of fan rotation for proper air flow.

Check belt after one week of operation for proper tension. (CUBA)

### **Maintenance**

Units should be checked monthly for the first two or three months and periodically thereafter.

### Cleaning

Units should be cleaned of grease and material buildup every three months or when necessary, depending on the condition of air being exhausted and frequency of use. Grease trough, drain and container should be checked and emptied as required to prevent grease overflow, as often as every one or two weeks with heavy grease applications such as char-broilers. Units should also be checked for eroded parts which should be replaced to avoid structural damage and possible failure.

#### Lubrication

Fan bearings on CUBA models are permanently sealed and require **no** lubrication. Motor bearings should be lubricated according to the motor manufacturer's instructions.

# Adjustment of Variable Pitch Pulley and Belt (CUBA)

Variable pitch pulley may be adjusted within catalog RPM range to alter performance. However, adjustment beyond catalog RPM range may cause motor overload and possible premature motor failure. Pulley alignment and belt tension should be adjusted if necessary. Both motor and driven pulleys should be at right angles to the shafts, and the V-grooves should be aligned with each other. Inspection of drive components every 6 to 12 months is recommended.

### **WARNING**

### **CAUTION**



DO NOT INSTALL FAN WITH MOVING PARTS WITHIN 8 FEET OF FLOOR OR GRADE LEVEL WITHOUT A GUARD THAT COMPLIES WITH OSHA REGULATIONS. DO NOT USE UNLESS ELECTRICAL WIRING COMPLIES WITH ALL APPLICABLE CODES. DO NOT WIRE WITHOUT PROVIDING FOR A POWER SOURCE DISCONNECT AT THE FAN ITSELF. DO NOT SERVICE EXCEPT BY A QUALIFIED MAINTENANCE TECHNICIAN AND ONLY AFTER DISCONNECTING THE POWER SOURCE. FAILURE TO OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

To convert air performance (CFM and SP) and power (BHP) to metric units, multiply CFM x .000472 to obtain cubic meters per second ( $m^3/s$ ). Multiply SP x 248.36 to obtain Pascals (Pa). Multiply BHP x .7457 to obtain Kilowatts (kW).

**Example:**  $3904 \text{ CFM x } .000472 = 1.8427 \text{ m}^3/\text{s}$ 

0.125 SP x 248.36 = 31.05 Pa 0.886 BHP x .7457 = 0.661 kW

# **CUBA/CUDA Options and Accessories**

# Grease Extraction Application Accessories

### General Ventilation Accessories

#### **Prefabricated Roof Curbs**

Roof curbs for grease extraction CUBA models meet NFPA 96 system requirements for minimum PRV discharge height above the roof line. Curb height for sizes 18 and below is 20", and for sizes 20 and above is 18". Curbs with venting on two or four sides are also available. All curbs are insulated, feature a weather-resistant, continuous welded construction and provide convenience in installation of PRV units for both insulated and non-insulated roof decks.

### **Safety Disconnects**

Safety disconnects cut power to motor for servicing of unit. A factory mounted and wired disconnect is an option for CUBA units with the UL 762 designation. The disconnect may either be interior with an external weather-proof junction box (all units), or external (units up to 2 hp only). Wiring is completed from the motor to the exterior box.

#### **Grease Collector**

Grease pans collect grease drained from the fan. An integral baffle contains the grease while allowing water to flow from the pan. The grease collector should be attached to the curb below the standard drain.

#### **Prefabricated Roof Curbs**

Insulated roof curbs with weather-resistant, continuous welded construction are available for convenience in installation for both insulated and non-insulated roof decks.

### Safety Disconnects

Safety disconnects cut power to motor for servicing of unit. A disconnect switch is an accessory available on CUBA units used for general ventilation. The switch is shipped loose for field installation and power source connection. An optional wiring harness is available to connect the motor to the switch at the internal junction box. A factory disconnect device with mounted and wired internal junction box is standard for all CUDA models.

### **Backdraft Dampers**

Gravity or motor operated backdraft dampers are available. They are aluminum construction and designed for installation in prefabricated roof curbs.

### **Birdguards**

Birdguards are available to prevent entry of birds or other potentially damaging objects.

### **General Options and Accessories**

### **Hinged Base Kits**

Hinged bases are specifically designed to provide easy access for cleaning and servicing the lower parts of CUBA units.

#### **Roof Handle**

Aluminum handle facilitates removal of the roof. Roof handles are standard for CUBA models with a UL762 designation.

#### **Special Motors**

Two-speed, totally enclosed, energy efficient and explosion-proof motors for hazardous locations may be available for many models. Motor requirements may affect UL Listings.

#### **Protective Coatings**

Fan units are not recommended for exhausting air of a corrosive nature. However, special protective coatings are available where units may be exposed to corrosive exterior conditions. Parts requiring painting are processed through the American Coolair five-stage pretreatment system prior to the application of any coatings to insure maximum finish adhesion. These parts use a thermosetting epoxy powder paint with an average thickness of 3 mils and baked at 400° F to a smooth, hard continuous finish. Consult your ILG Industries representative for available coatings.

#### Speed Controller (For selected CUDA models only)

Solid state speed controller provides capability to change performance and speed ranging from 50% to 100% of fan capacity. This permits adjustment for fine tuning and balancing the ventilation system (see performance tables for compatible models).

### **CUBA Specification Checklist**

- Units provide grease-laden vapor extraction and general exhaust with vertical discharge for low to medium air volumes, especially in commercial and institutional kitchens.
- Centrifugal design has advantages of compact, attractive appearance, quiet operation and performance against higher static pressures.
- Variable pitch belt drive allows for speed adjustment.
- Adjustable hinged motor bracket with single bolt adjustment facilitates maintenance of belt tension.
- Weatherproof heavy duty spun aluminum housing and motor compartment cover resist corrosion, maintaining appearance.
- Deep-spun, overlapping, one-piece venturi/bottom outer housing minimizes noise, reduces air turbulence and improves efficiency.
- Unique "C-Drive" design reduces radial bearing loads, providing a calculated L10 bearing life of over 1,000,000 hours
- Aluminum centrifugal wheel is quiet, non-overloading backward-inclined design and is computer balanced.
- Standard open drip-proof motor is out of the airstream for protection.
- The motor is mounted with the electrical terminal board up for convenient connection and servicing.
- The motor compartment is cooled by a forced air ventilation system, extending motor life.
- Units have the UL Label for the removal of greaseladen vapors and fumes (UL 762), or for general ventilation (UL 705).
- AMCA Seal assures certified rating of air and sound performance.
- Heavy duty neoprene isolators eliminate metal-tometal contact, reducing vibration and sound.

### **CUDA Specification Checklist**

- Units provide grease-laden vapor extraction and general exhaust with vertical discharge for low to medium air volumes in commercial, institutional and light manufacturing buildings.
- Centrifugal design has advantages of compact, attractive appearance, quiet operation and performance against higher static pressures.
- Direct-drive has advantages of minimal maintenance and operating costs.
- Safety disconnect device allows power to be cut off for servicing of unit.
- Weatherproof heavy duty spun aluminum housing and motor compartment cover resist corrosion, maintaining appearance.
- Deep-spun, overlapping, one-piece venturi/bottom outer housing minimizes noise, reduces air turbulence and improves efficiency.
- Aluminum centrifugal wheel is quiet, non-overloading, backward-inclined design and is computer balanced.
- Standard open motor is out of the airstream for protection.
- The motor compartment is cooled by a forced air ventilation system, extending motor life.
- Units have the UL Label for general ventilation (UL 705).
- AMCA Seal assures certified rating of air and sound performance.
- Heavy duty neoprene isolators eliminate metal-tometal contact, reducing vibration and sound.
- Units are factory run and tested prior to shipment for dependable operation.

### **Limited Warranty**

In the sale of its products, American Coolair Corporation agrees to correct, by repairs or replacement, any defects in workmanship or material that may develop under proper and normal use during the period of one year from the date of shipment from the factory. Any product or part proving, upon American Coolair's examination, to be defective during limited warranty period will be repaired or replaced, at American Coolair's option, f.o.b. factory, without charge.

Deterioration or wear caused by chemicals, abrasive action or excessive heat shall not constitute defects.

Motors are guaranteed only to the extent of the manufacturer's warranty.

American Coolair's limited warranty does not apply to any of its products or parts that have been subject to accidental damage, misuse by the user, unauthorized alterations, improper installation or electrical wiring, or lack of proper lubrication or other service requirements as established by American Coolair.

Repairs or replacements provided under the above terms shall constitute fulfillment of all American Coolair's obligations with respect to limited warranty.

THÉ LIMITED WARRANTY STATED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING WITHOUT LIMITATION THAT OF MERCHANTABILITY AND FITNESS.

NO LIABILITY FOR REINSTALLATION COST OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY NATURE IS ASSUMED OR SHALL BE IMPOSED UPON AMERICAN COOLAIR.



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