

Centrifugal Ventilators

Direct-Drive Downblast Centrifugal Roof & Wall Ventilators

Direct-drive downblast ventilators are designed for use where steady exhaust ventilation is needed under low to moderate static pressure conditions.

Agency Listing

- All ventilators are UL Standard 705 listed
- Ventilators are CSA listed according to Standard C22.2 No. 113-M1984 (Fans & Ventilators)

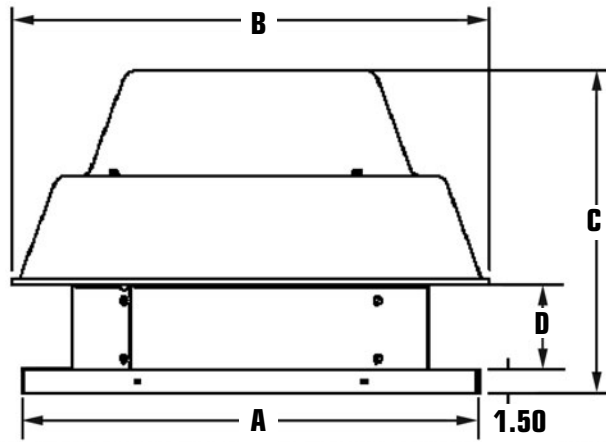
Features and Specifications

- Downblast discharge design exhausts foul air from industrial and commercial buildings
- Ventilators can be mounted on the roof or wall
- Durable spun aluminum construction with steel support braces
- Backward inclined aluminum fan wheel
- Externally cooled motor compartment
- Motor located out of discharge airstream
- Motors are 115V or 115/230V, 60 Hz, ball bearing motors with Class B insulation
- PSC motors included in standard design (shaded pole motor style used for B" models)

- One-piece removable exhaust hood
- Inlet temperatures up to 170°F
- Built-in bird screen to protect discharge and ensure safe, obstruction-free operation
- Motor and wheel are easily detachable without removing ventilator from curb
- Junction box mounted in motor compartment
- Windband rolled bead for added strength and easy maneuverability
- Welded curb cap corners eliminate water entry into ducts or building
- All units are speed controllable

Accessories (available separately)

- For more information, see Power Roof Ventilator Accessories
- Speed controllers
- Backdraft dampers
- NEMA 1, NEMA 3R and NEMA 4 disconnect switches
- Fixed mounting curbs



Fantech, Inc. and Systemair Mfg. Inc. certify that the Direct-Drive Downblast Centrifugal Roof & Wall Ventilators 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.

Model No.	Wheel Diameter (In.)	Wheel Bore Size (In.)	Dimensions (In.)				Gauge Thickness (In.)			Total Ship Wt. (lbs.)	Recommended Roof Opening (In.)	Optional Accessories			
			A	B	C	D	Baffle	Venturi	Dome			Roof Mount Backdraft Damper Model No.	8" Ht. Model No.	12" Ht. Model No.	Speed Control (115V Only) Model No.
5DDD084A	8	5/16	19	18-7/8	13-1/4	3-1/2	0.05	0.05	0.063	35	14-1/2 x 14-1/2	5ACC12RD	5ACC17FS	5ACC17FT	5ACC03SC
5DDD085A	8	5/16	19	18-7/8	13-1/4	3-1/2	0.05	0.05	0.063	35	14-1/2 x 14-1/2	5ACC12RD	5ACC17FS	5ACC17FT	5ACC03SC
5DDD106A	10-1/2	1/2	19	22-3/8	16-1/2	3-3/8	0.05	0.05	0.063	45	14-1/2 x 14-1/2	5ACC12RD	5ACC17FS	5ACC17FT	5ACC03SC
5DDD10AA	10-1/2	1/2	19	22-3/8	16-1/2	3-3/8	0.05	0.05	0.063	45	14-1/2 x 14-1/2	5ACC12RD	5ACC17FS	5ACC17FT	5ACC03SC
5DDD128A	12-1/4	1/2	22	24-1/4	17-1/8	4	0.063	0.08	0.08	45	17-1/2 x 17-1/2	5ACC15RD	5ACC20FS	5ACC20FT	5ACC03SC
5DDD12CA	12-1/4	1/2	22	24-1/4	17-1/8	4	0.063	0.08	0.08	45	17-1/2 x 17-1/2	5ACC15RD	5ACC20FS	5ACC20FT	5ACC06SC
5DDD138A	13-1/2	5/8	22	25-5/8	18-1/8	4-3/8	0.063	0.08	0.08	50	17-1/2 x 17-1/2	5ACC15RD	5ACC20FS	5ACC20FT	5ACC03SC
5DDD13DB	13-1/2	5/8	22	25-5/8	18-1/8	4-3/8	0.063	0.08	0.08	50	17-1/2 x 17-1/2	5ACC15RD	5ACC20FS	5ACC20FT	5ACC10SC
5DDD15AA	15	5/8	26	27-7/8	18-1/2	4-3/8	0.063	0.08	0.08	66	21-1/2 x 21-1/2	5ACC19RD	5ACC24FS	5ACC24FT	5ACC03SC
5DDD15CA	15	5/8	26	27-7/8	18-1/2	4-3/8	0.063	0.08	0.08	66	21-1/2 x 21-1/2	5ACC19RD	5ACC24FS	5ACC24FT	5ACC06SC
5DDD16BA	16-1/2	5/8	26	29-3/4	20-1/4	4-3/4	0.063	0.08	0.08	70	21-1/2 x 21-1/2	5ACC19RD	5ACC24FS	5ACC24FT	5ACC06SC
5DDD16DB	16-1/2	5/8	26	29-3/4	20-1/4	4-3/4	0.063	0.08	0.08	70	21-1/2 x 21-1/2	5ACC19RD	5ACC24FS	5ACC24FT	5ACC10SC
5DDD18CA	18-1/4	5/8	30	31-5/8	21-3/8	5-5/8	0.063	0.08	0.08	86	25-1/2 x 25-1/2	5ACC23RD	5ACC28FS	5ACC28FT	5ACC06SC
5DDD18EB	18-1/4	5/8	30	31-5/8	21-3/8	5-5/8	0.063	0.08	0.08	86	25-1/2 x 25-1/2	5ACC23RD	5ACC28FS	5ACC28FT	5ACC10SC

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Model Number	HP	RPM	TS (FPM)	0.0" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		.750" SP		.875" SP		1.00" SP		1.25" SP			
				Volts		CFM		CFM		CFM		CFM		CFM		CFM		CFM		CFM		CFM		CFM	
				FLA	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†	BHP	Sones†
50DD084A	1/100	1263	3435	115		370		212		87															
				1.5	1.5	5.8	—	3.3	—	2.6	—														
50DD085A	1/25	1661	3456	115		414		345		259		157													
				1.7	2.3	6.8	—	6.0	—	5.9	—	5.4	—												
50DD106A	1/20	1150	3023	115		645		484		309															
				1.7	4.0	5.5	—	5.5	—	5.0	—														
50DD10AA	1/6	1720	4728	115		985		911		824		724		619		498		352							
				1.8		9.6	—	9.4	—	9.1	—	8.1	—	7.9	—	7.8	—	—	—						
50DD128A	1/12	880	2822	115		902		789		658		297													
				6.2/3.1		5.4	0.06	5.0	0.06	4.6	0.07	5.0	0.05												
50DD12CA	1/3	1694	5519	115		1743		1670		1605		1543		1475		1392		1316		1232		1137		889	
				2.4	4.4	15.6	0.35	15.3	0.35	14.9	0.36	14.6	0.36	14.2	0.37	13.8	0.38	13.6	0.39	13.4	0.39	13.2	0.39	13.1	0.38
50DD138A	1/12	869	3071	115		1257		1135		977		711													
				3.6		7.8	0.07	6.4	0.08	5.5	0.09	5.5	0.08												
50DD13DB	1/2	1684	5952	115/230		2226		2164		2102		2040		1970		1897		1813		1740		1657		1469	
				6.2/3.1		18.2	0.44	17.5	0.47	17.1	0.48	15.6	0.49	14.2	0.51	13.4	0.54	12.7	0.56	11.4	0.57	12.2	0.56	13.9	0.56
50DD15AA	1/6	866	3401	115		1716		1563		1384		1166		664											
				4.4		7.5	0.14	7.1	0.15	6.8	0.16	6.1	0.16	5.6	0.13										
50DD15CA	1/3	1124	4496	115		2160		2045		1930		1792		1645		1481		1255		767					
				8.4/4.2		11.9	0.32	11.5	0.33	11.1	0.34	10.3	0.34	9.7	0.34	9.1	0.34	9.0	0.34	9.0	0.28				
50DD168A	1/4	868	3749	115		2337		2191		2038		1835		1573		599									
						11.0	0.24	9.6	0.25	8.9	0.25	6.7	0.26	6.5	0.26	6.8	0.24								
50DD16DB	1/2	1143	4937	115/230		2914		2787		2660		2526		2389		2231		2061		1848		1493			
						15.9	0.45	14.7	0.46	14.2	0.48	13.4	0.49	11.7	0.50	10.3	0.50	10.3	0.50	10.1	0.50	11.0	0.49		
50DD18CA	1/3	856	4090	115		3120		2948		2767		2556		2270		1865		896							
						15.1	0.34	13.3	0.36	11.3	0.36	8.6	0.36	6.4	0.36	7.4	0.36	8.5	0.26						
50DD18EB	3/4	1106	5284	115/230		4037		3902		3766		3629		3476		3324		3147		2970		2765		1407	
						19.8	0.75	19.5	0.77	19.2	0.80	18.8	0.82	18.4	0.85	18.0	0.87	17.8	0.89	17.7	0.89	17.5	0.89	18.5	0.57

Performance certified is for installation type A: free inlet, free outlet. Performance rating includes the effects of bird screen. Speed (RPM) shown is nominal, and performance is based on actual speed of test.

† 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 hemispherical sone levels.

Typical Specifications:

Direct-Drive Downblast Roof & Wall Exhaust Fans

Roof & wall mount exhaust fans shall be centrifugal downblast direct-drive type. The fan wheel shall be centrifugal backward inclined, blades and wheel cone to be constructed of aluminum and shall include a wheel cone matched to the inlet cone for precise running tolerances. Wheels shall be statically and dynamically balanced. The fan housing shall be constructed of heavy gauge aluminum with a rigid steel support structure. Baffles and motor compartment hoods shall have a rolled bead for added strength. Motors shall be mounted out of the airstream. Fresh air for motor cooling shall be drawn into the motor compartment from an area free of discharge contaminants. Motors shall be readily accessible for maintenance. A junction box shall be factory installed to permit a disconnect switch to be wired to the fan motor within the motor compartment. A conduit chase shall be provided through the curb cap to the motor compartment for ease of electrical wiring. All fans shall bear the AMCA Certified Ratings Seal for sound and air performance. Each fan shall bear a permanently affixed manufacturer's nameplate containing model number and carry a one-year warranty. Fans shall be Fantech Model Direct-Drive Downblast Centrifugal Roof & Wall Ventilators as manufactured by Systemair Mfg. Inc., Lenexa, Kansas.

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Direct-Drive Downblast Centrifugal Roof & Wall Ventilators – Octave Sound Data

The sound power ratings shown are in decibels, referred to 10^{-12} Watts calculated per AMCA Standard 301. Values shown are for inlet L_{w_i} A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include the effects of duct end correction. For models shown on this page, the AMCA Certified Ratings Seal applies to air performance and some values only.

Model 5DDD084A; Wheel Dia. 8" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/100	1263	0	65	67	72	62	54	52	49	43	66
		0.13	69	66	71	61	54	52	49	42	65
		0.25	67	67	70	60	53	50	48	41	64

Model 5DDD13DB; Wheel Dia. 13-1/2" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/2	1684	0	73	77	85	79	71	69	68	65	80
		0.5	72	77	84	78	70	68	67	63	79
		1	71	77	82	76	68	67	66	62	78
		1.5	72	76	80	74	67	66	65	61	76

Model 5DDD085A; Wheel Dia. 8" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/25	1650	0	62	66	71	63	63	55	54	45	67
		0.13	62	65	71	62	58	53	51	43	65
		0.25	63	65	72	60	55	52	48	41	65

Model 5DDD15AA; Wheel Dia. 15" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/6	866	0	65	76	72	66	62	61	53	45	69
		0.25	63	73	70	64	60	58	50	43	67
		0.5	59	71	66	61	56	50	47	41	63

Model 5DDD106A; Wheel Dia. 10-1/2" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/12	1150	0	63	68	68	57	54	52	48	37	63
		0.13	66	68	67	55	51	48	45	36	61
		0.25	66	67	65	52	50	47	43	35	59
		0.38	73	68	65	51	50	46	42	34	59

Model 5DDD15CA; Wheel Dia. 15" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/3	1124	0	73	76	81	78	75	68	66	66	79
		0.5	71	75	79	76	71	66	72	70	79

Model 5DDD10AA; Wheel Dia. 10-1/2" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/6	1720	0	67	75	78	72	66	63	61	55	74
		0.5	70	75	76	69	62	60	58	52	71

Model 5DDD16BA; Wheel Dia. 16-1/2" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/4	868	0	66	77	75	69	64	64	57	48	72
		0.25	65	77	74	68	66	62	54	45	71
		0.5	65	74	70	65	62	56	51	43	67

Model 5DDD128A; Wheel Dia. 12-1/4" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/12	880	0	59	68	66	61	60	55	47	40	64
		0.25	56	64	63	58	52	47	41	37	59

Model 5DDD16DB; Wheel Dia. 16-1/2" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/2	1143	0	71	77	85	77	68	69	66	58	79
		0.5	69	75	83	75	67	68	62	55	78
		1	71	73	78	71	64	63	58	53	73

Model 5DDD12CA; Wheel Dia. 12-1/4" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/3	1694	0	77	79	81	78	72	70	67	59	79
		0.5	76	79	81	76	68	67	65	57	77
		1	76	78	79	74	66	66	63	58	76

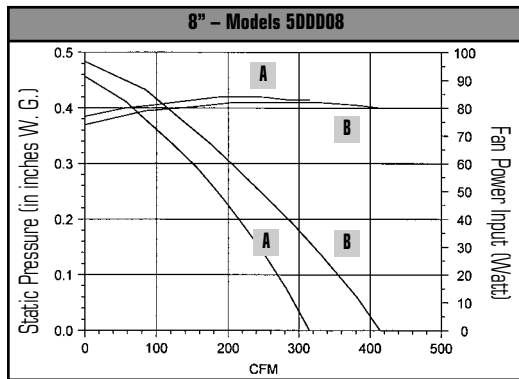
Model 5DDD18CA; Wheel Dia. 18-1/4" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/3	856	0	69	79	77	71	65	63	59	52	73
		0.25	68	79	76	70	63	61	57	50	72
		0.5	67	78	74	68	62	60	56	49	71

Model 5DDD138A; Wheel Dia. 13-1/2" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
1/12	869	0	62	71	70	68	55	56	50	44	68
		0.25	62	69	68	68	56	52	46	42	67

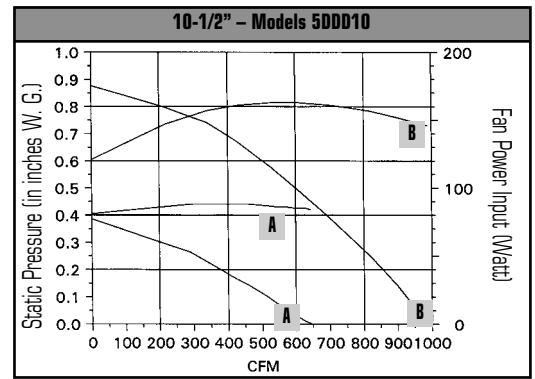
Model 5DDD18EB; Wheel Dia. 18-1/4" Sound Data											
HP	RPM	SP	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_{w_i} A
3/4	1106	0	74	79	92	82	73	69	66	61	85
		0.5	72	77	92	81	72	67	64	60	85
		1	71	75	91	81	71	66	64	62	84

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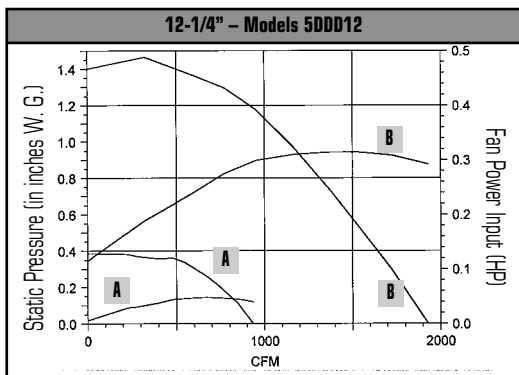
Direct-Drive Downblast Centrifugal Roof & Wall Ventilators – Performance Curves



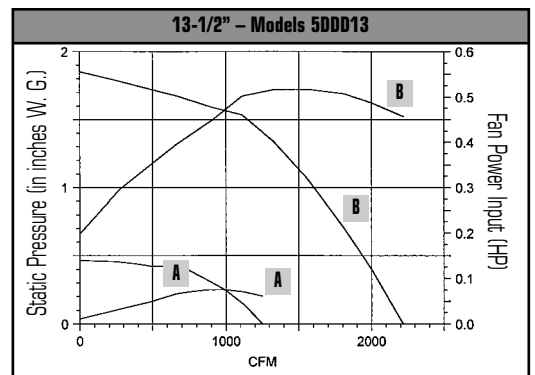
A = 5DDD084A, 1263 RPM
B = 5DDD085A, 1650 RPM



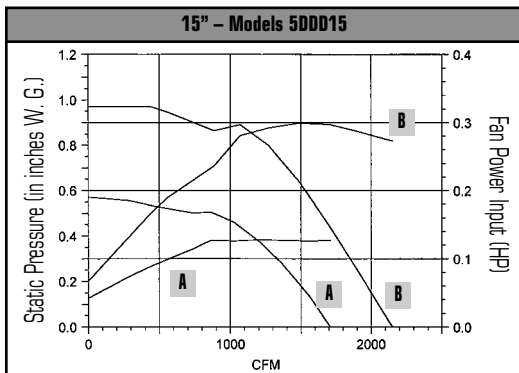
A = 5DDD106A, 1150 RPM
B = 5DDD10AA, 1720 RPM



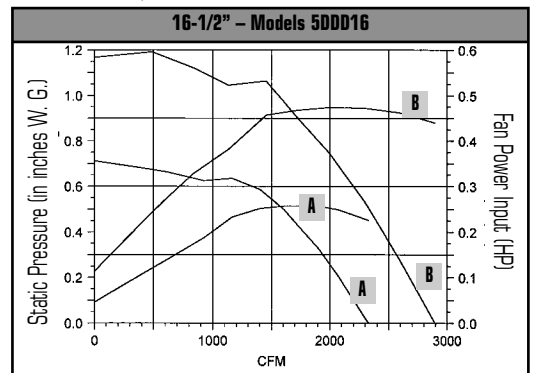
A = 5DDD128A, 880 RPM
B = 5DDD12CA, 1694 RPM



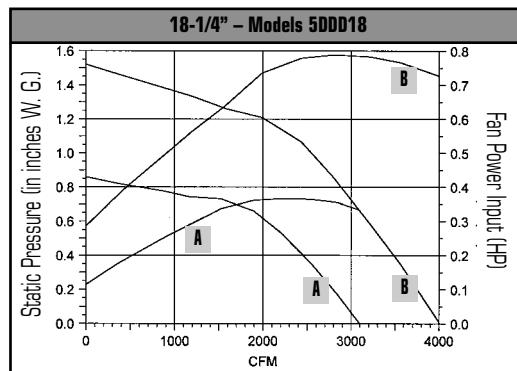
A = 5DDD138A, 870 RPM
B = 5DDD13DB, 1680 RPM



A = 5DDD15AA, 870 RPM
B = 5DDD15CA, 1145 RPM



A = 5DDD168A, 870 RPM
B = 5DDD16DB, 1140 RPM



A = 5DDD18CA, 860 RPM
B = 5DDD18EB, 1110 RPM

Performance certified is for installation type A: free inlet, free outlet. Performance rating includes the effects of bird screen. Speed (RPM) shown is nominal, and performance is based on actual speed of test.