cincinnati fan
OEM and Industrial Air Handling Specialist

FAN SELECTION And SPECIFICATIONS

Your Cincinnati Fan Representative:
Thomas G. Todd
Todd Air Solutions
P.O. Box 4245
Salisbury NC 28145
704-630-1101 Phone
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Thursday, May 24, 2012

Job Name: AVANI ENVIRONMENTAL
Reference: Quote: 216683

Operating Requirements

Volume, ACFM	4,198
Static Pressure, in. wg	15.0
Density, lb./ft.³	0.075
Operating Temperature, °F	70
AMCA Arrangement No.	1
Motor Frequency, Hz	60
Start-Up Temperature, °F	70

Fan Selection and Specifications

Model	RBE-15
Fan RPM	2,023
Suggested Motor RPM	1,750
Actual Flow, ACFM	4,198
Actual SP, in. wg	15.0
Percentage of Peak SP	97.4%
Wheel Description	Open Radial
Wheel Width, %	100%
Wheel Diameter, in.	26.13
Number of Blades	6
WR², lb. - ft.²	
Tip Speed, ft./min.	13,836
Inlet Diameter, in.	15.00
Inlet Area, ft.²	1.19
Outlet Dimensions	14.50 X 12.75 in. rect.
Outlet Area, ft.²	1.28
Outlet Velocity, ft./min.	3,270
Fan BHP	15.9
Suggested Motor HP	20.0
Static Efficiency, %	62.3%
Cold Start BHP	15.9
Construction Class	Series 25
Maximum Wheel RPM	2,699
Maximum Shaft RPM	2,699

Temperature Notes:
Standard arrangement 4 is suitable to 200°F.
Arrangement 4 is suitable to 400°F with heat slinger/slinger guard, shaft seal, and an external hub wheel.
With standard construction, other arrangements with steel wheels are suitable to 300°F.
Aluminum wheels are suitable to 200°F.

Construction Notes:
Fabricated steel open wheel. Outlet flange not available with downblast or bottom angular down discharge positions.

Available Frame Sizes: 254T-324T
Series 25 weight less motor: 555 lbs.

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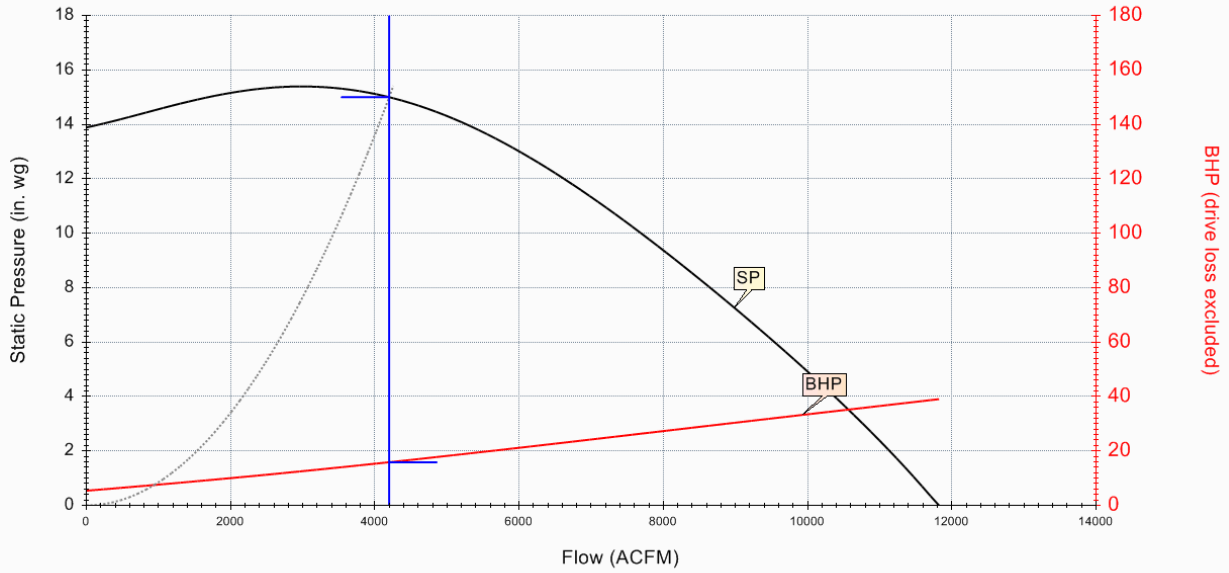
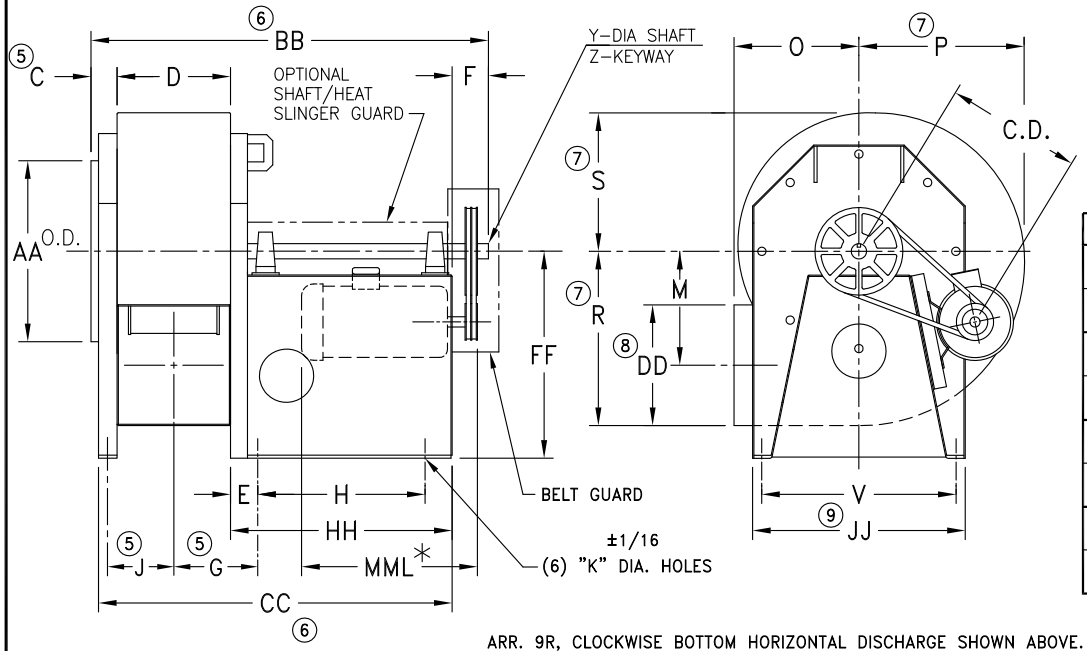
Cincinnati Fan Model RBE-15 with Open Radial Wheel (Full Width) @ 2,023 RPM
Rating Point: 4,198 ACFM @ 15.0 in. wg SP, 0.075 lb./ft.³ Density, 15.9 BHP





ARR. 9R, CLOCKWISE BOTTOM HORIZONTAL DISCHARGE SHOWN ABOVE.

	C.D. BELT CENTER DISTANCE													
	MOTOR FRAME SIZE													
	143T–145T		182T–184T		213T–215T		254T–256T		284T–286T		324T–326T		364T–365T	
MODEL	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
RBE–7	11 3/16	12 1/2	12	13 1/8	12 3/16	13 5/16								
RBE–9			13 3/8	14 11/16	13 7/8	15 7/16	14 1/4	15 3/4						
RBE–11			14 1/2	15 3/4	15 13/16	17 7/16	17 1/2	19 7/16	17 13/16	◆20				
RBE–13			15 5/16	16 9/16	16 5/8	18 1/4	18 5/16	20 5/16	18 1/8	20 3/16				
RBE–15					16 3/4	18 3/8	18 7/16	20 3/8	19 1/2	21 13/16	21 3/8	24 3/16		
RBE–17							18 7/8	20 13/16	19 7/8	22 1/4	21 3/4	24 11/16		
RBE–19							19 7/8	21 13/16	20 15/16	23 1/4	22 11/16	25 11/16	24 3/16	27 5/8
RBE–21							20 11/16	22 7/16	21 11/16	23 7/8	23 9/16	26 1/4	25	28 3/16

◆ MAX. ALLOWABLE CENTER DISTANCE WITH MOTOR ON LEFT.

			⑤				⑤		⑤				⑦	⑦	⑦					⑥	⑥	⑧			⑨	✳	✳✳
	MODEL NO.	MOTOR FRAME	C	D	E	F	G	H	J	K	M	O	P	R	S	V	Y	Z	AA	BB	CC	DD	FF	HH	JJ	MML	WEIGHT
	RBE–7	143T–215T	3	6 1/8	3	4	6 1/16	12 3/4	4 1/16	9/16	7 1/4	9	9 7/8	10 5/8	9 1/8	14	1 11/16	3/8	7	31 7/8	26 7/8	6 3/4	15 1/2	18 3/4	16	19 3/8	155
	RBE–9	182T–256T	3	7 5/8	3	4	6 13/16	17	4 13/16	9/16	9 3/8	11 3/8	12 3/4	13 3/4	11 3/4	17 1/4	1 11/16	3/8	9	37 5/8	32 5/8	8 3/4	18 1/8	23	19 1/4	24 1/4	225
	RBE–11	182T–286T	3	9 3/8	3	4	7 11/16	18 1/2	5 11/16	9/16	11 3/8	13 3/4	15 1/2	16 3/4	14 1/4	21 1/2	1 15/16	1/2	11	40 7/8	35 7/8	10 3/4	22 3/4	24 1/2	23 1/2	26 3/8	335
	RBE–13	182T–286T	3	11	3	5	8 1/2	21	6 1/2	9/16	13 1/2	16 1/8	18 3/8	19 7/8	16 7/8	26 1/8	1 15/16	1/2	13	46	40	12 3/4	26 1/4	27	28 1/8	29 1/2	460
	RBE–15	213T–324T	3	12 3/4	3	6	9 3/8	21	7 3/8	9/16	15 3/4	18 3/8	21 1/4	23	19 1/2	28 1/4	2 3/16	1/2	15	48 3/4	41 3/4	14 1/2	28 1/2	27	30 3/4	29 1/2	635
	RBE–17	254T–326T	3	14 3/8	3	6	10 3/16	21	8 3/16	9/16	17 3/4	20 3/4	24	26	22	31	2 7/16	5/8	17	50 3/8	43 3/8	16 1/2	31 1/4	27	33 3/4	29 1/2	700
	RBE–19	254T–364T	4	15 7/8	3	6	10 15/16	24 3/4	8 15/16	9/16	19 3/4	24 9/16	26 3/4	28 15/16	24 9/16	34 1/4	2 7/16	5/8	19	56 5/8	48 5/8	18 3/8	34 1/2	30 3/4	37 1/4	33 1/4	950
	RBE–21	254T–364T	5	17 3/4	3 1/2	6	12 3/8	25	10 7/8	3/4	21 13/16	27 3/16	29 9/16	32	27 3/16	28	2 11/16	5/8	21	60 3/4	52 3/4	20 5/16	38 3/4	32	30	32 3/4	1320

NOTES:
1. FAN HOUSINGS ARE REVERSIBLE AND ROTATABLE IN 45° INCREMENTS.
2. FAN SHAFTS ARE TREATED WITH A RUST INHIBITIVE COATING.
3. BELT GUARD IS STANDARD ON ARR. 9.
4. ARR. 1 PROVIDED WITHOUT MOTOR, MOTOR SLIDE BASE, BELT GUARD AND DRIVE.
5. ADD 1/8" FOR AMCA "C" CONSTRUCTION FANS AND/OR DOWN BLAST DISCHARGE POSITION.
6. ADD 1/4" FOR AMCA "C" CONSTRUCTION FANS AND/OR DOWN BLAST DISCHARGE POSITION.
7. ADD 1/16" FOR HEAVY DUTY HOUSING.
8. ADD 1/8" FOR HEAVY DUTY HOUSING.
9. RBE–21: INLET SIDE PLATE IS WIDER THAN BASE "JJ" DIMENSION, 41–3/4 VERSUS 30 INCHES.

✳ MAXIMUM ALLOWABLE MOTOR LENGTH WITH STANDARD BASE.
✳✳ WEIGHT DOES NOT INCLUDE MOTOR, DRIVE, OR OPTIONS.

cincinnati fan
7697 SNIDER ROAD MASON, OHIO 45040

TOLERANCES:
ANGLES: ± 1°
FRACTIONS ±1/8
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

SUPERSEDES:

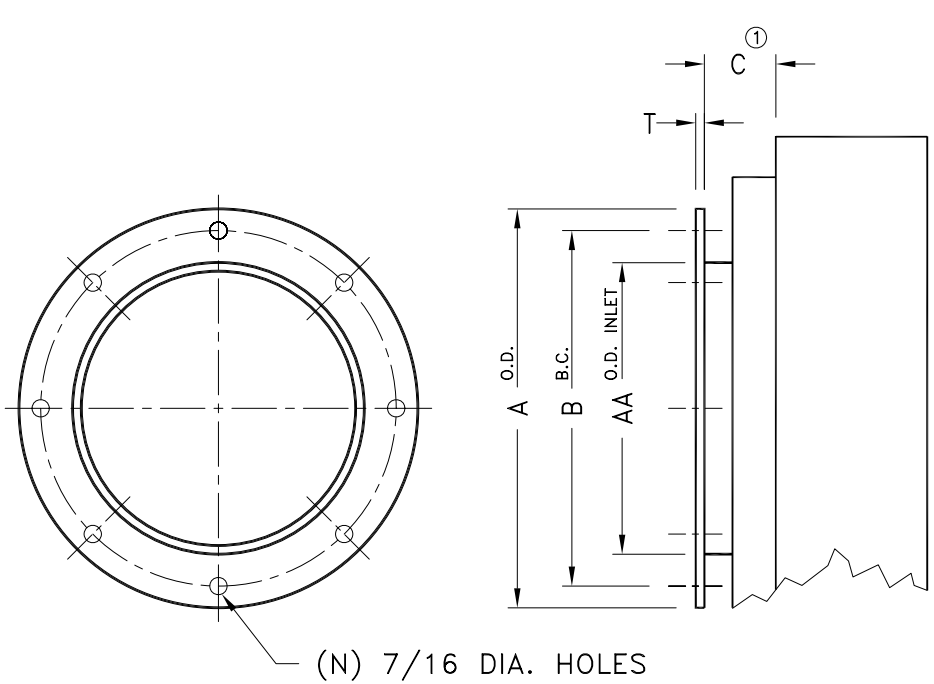
CERTIFIED DRAWING

TITLE: RBE ARR. 1/9 SERIES 25

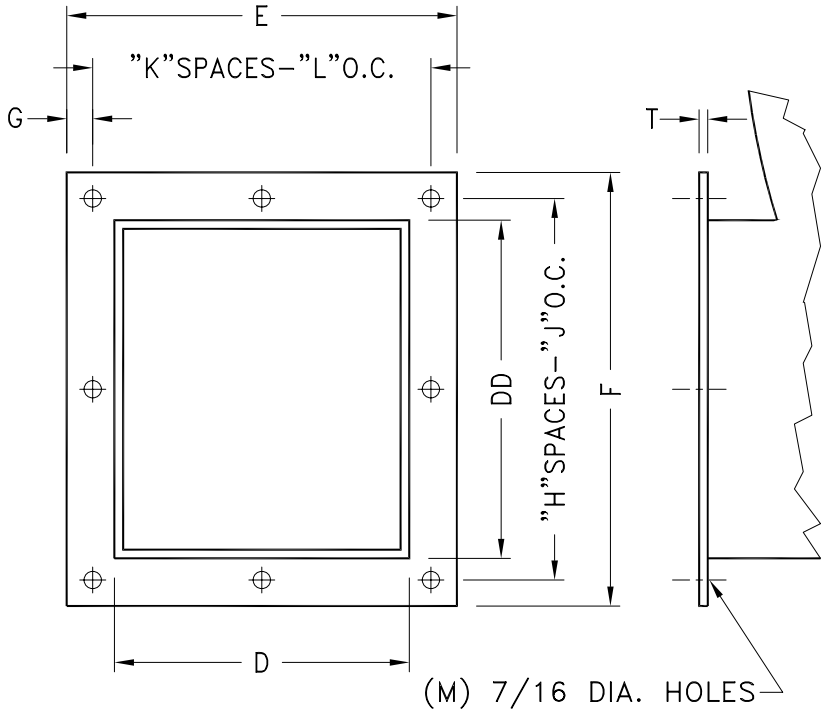
A

DRAWING NO. RBEA9S25

REV. 4



INLET FLANGE



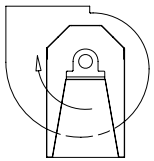
DISCHARGE FLANGE ✳

✳ NOT AVAILABLE ON ANY MODEL FOR DOWNBLAST OR BOTTOM ANGULAR DOWN, OR RBE–7 TOP ANGULAR DOWN DISCHARGE POSITION.

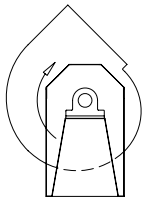
	INLET						DISCHARGE									
MODEL	A	B	C ①	AA	N	T	D	E	F	G	H	J	K	L	M	DD
RBE–7	9–3/8	8–1/2	3	7	8	1/8	6–1/8	10–1/8	10–3/4	1	2	4–3/8	2	4–1/16	8	6–3/4
RBE–9	11–5/8	10–5/8	3	9	8	1/8	7–5/8	11–5/8	12–3/4	1	2	5–3/8	2	4–13/16	8	8–3/4
RBE–11	13–7/8	12–3/4	3	11	8	1/8	9–3/8	13–3/8	14–7/8	1–1/16	3	4–1/4	3	3–3/4	12	10–3/4
RBE–13	16–1/8	15	3	13	8	1/8	11	15	16–11/16	1–1/32	3	4–7/8	3	4–5/16	12	12–3/4
RBE–15	18–1/8	17	3	15	8	1/8	12–3/4	16–3/4	18–5/8	1–1/16	4	4–1/8	3	4–7/8	14	14–1/2
RBE–17	20–1/8	19	3	17	8	1/8	14–3/8	18–3/8	20–5/8	1–1/16	4	4–5/8	4	4–1/16	16	16–1/2
RBE–19	22–1/8	21	4	19	8	1/8	15–7/8	19–7/8	22–3/8	1–1/16	4	5–1/16	4	4–7/16	16	18–3/8
RBE–21	24–1/2	22–1/2	5	21	12	3/16	17–3/4	21–3/4	24–11/32	1	5	4–15/32	4	4–15/16	18	20–5/16

① ADD 1/8 FOR AMCA "C" CONSTRUCTION FANS AND/OR DOWNBLAST AND BOTTOM ANGULAR DOWN DISCHARGE POSITIONS.

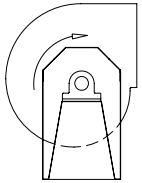
CLOCKWISE ROTATION



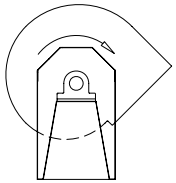
CLOCKWISE
UP BLAST



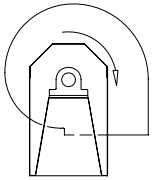
CLOCKWISE
TOP ANGULAR UP



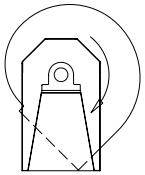
CLOCKWISE
TOP HORIZONTAL



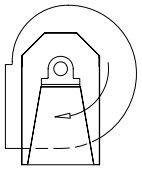
CLOCKWISE
TOP ANGULAR DOWN



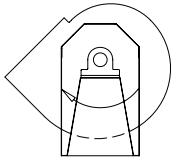
CLOCKWISE
DOWN BLAST



CLOCKWISE
BOTTOM ANGULAR DOWN

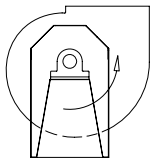


CLOCKWISE
BOTTOM HORIZONTAL

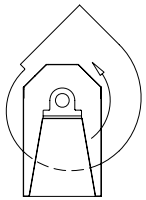


CLOCKWISE
BOTTOM ANGULAR UP

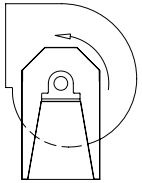
COUNTERCLOCKWISE ROTATION



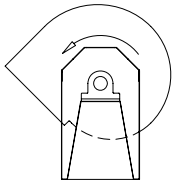
COUNTERCLOCKWISE
UP BLAST



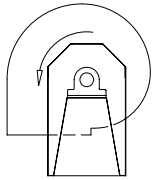
COUNTERCLOCKWISE
TOP ANGULAR UP



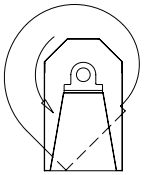
COUNTERCLOCKWISE
TOP HORIZONTAL



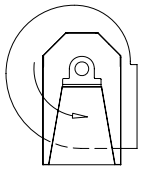
COUNTERCLOCKWISE
TOP ANGULAR DOWN



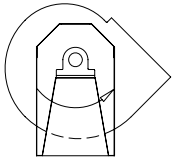
COUNTERCLOCKWISE
DOWN BLAST



COUNTERCLOCKWISE
BOTTOM ANGULAR DOWN



COUNTERCLOCKWISE
BOTTOM HORIZONTAL



COUNTERCLOCKWISE
BOTTOM ANGULAR UP

NOTES:

1. DIRECTION OF ROTATION IS DETERMINED FROM DRIVE SIDE OF FAN.
2. SAME AS AMCA STANDARD 99–2406–83.