



# FAN SELECTION And PERFORMANCE

Your Cincinnati Fan Representative:  
 Thomas G. Todd  
 Todd Air Solutions  
 PO Box 4245  
 Salisbury NC 28145  
 (704) 630-1101 Phone  
 (704) 630-0528 Fax  
 admin@toddas.com

Thursday, February 14, 2013

Job Name: AVANI ENVIRONMENTAL  
 Reference: Quote: 235420

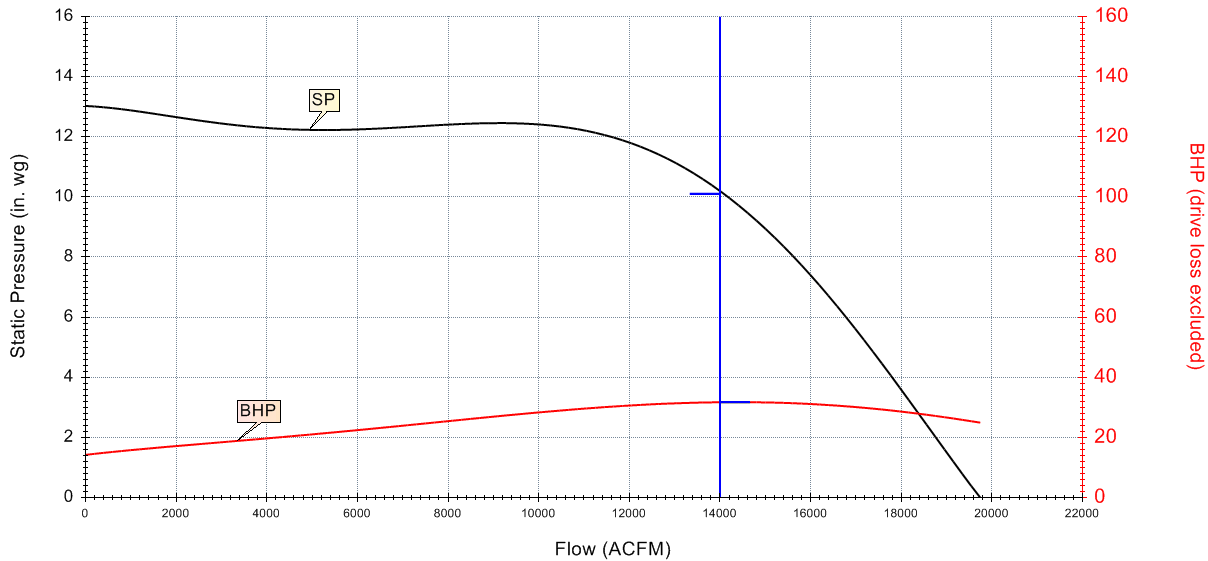
## Operating Requirements

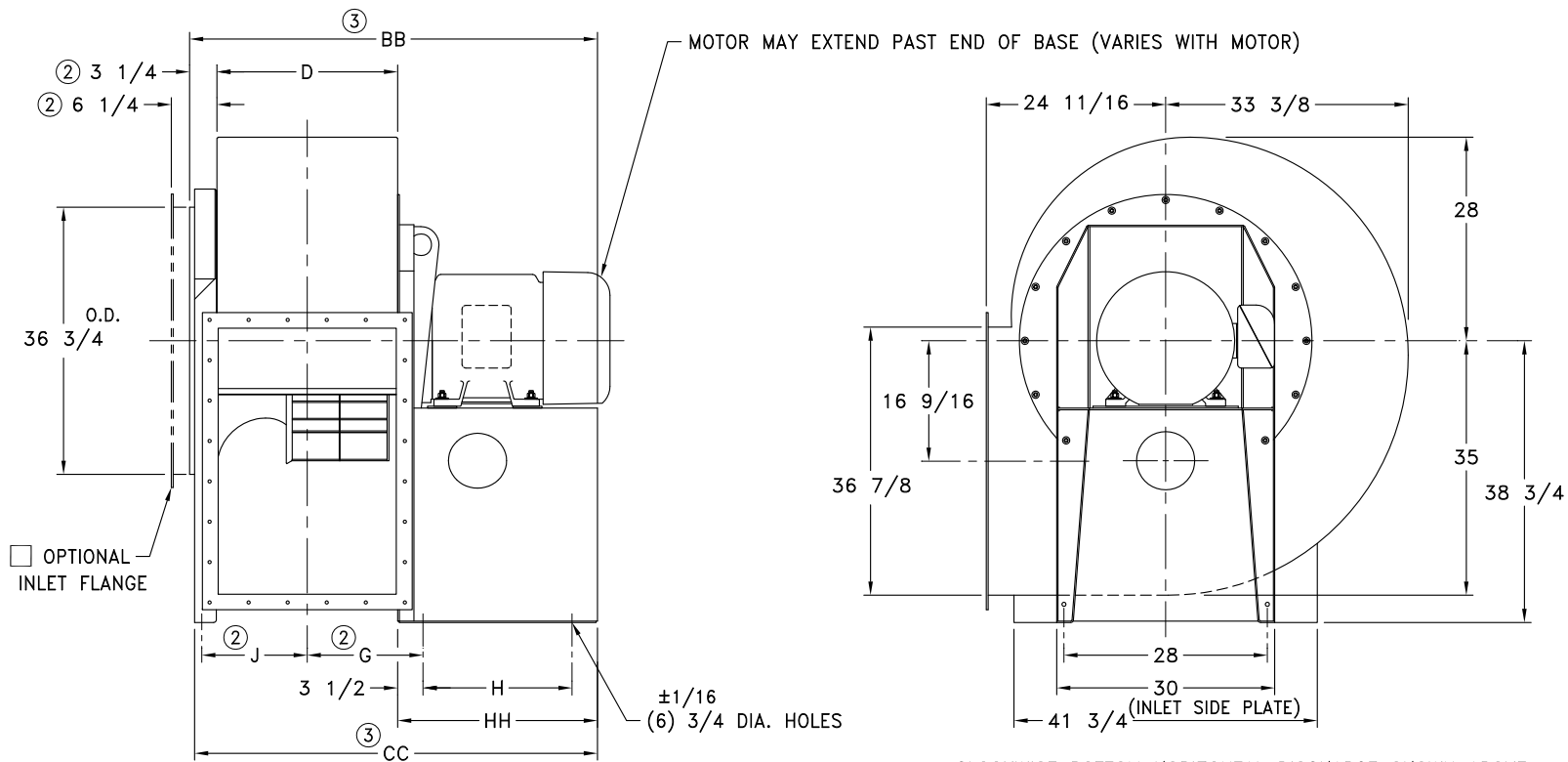
Volume, ACFM	14,000
Static Pressure, in. wg	10.0
Density, lb./ft. <sup>3</sup>	0.075
Operating Temperature, °F	70
AMCA Arrangement No.	4
Motor Frequency, Hz	60
Start-Up Temperature, °F	70

## Fan Selection and Specifications

Model	HDBI-330	
Fan RPM	1,755	
Wheel Description	HD Backward Inclined	
Wheel Width, %	55%	
Wheel Diameter, in.	33.00	
Inlet Diameter, in.	36.75	
Outlet Velocity, ft./min.	2,894	
Fan BHP	31.7	Suggested Motor HP: 40.0
Static Efficiency, %	70.5%	
Cold Start BHP	31.7	
Construction Class	Class IV	

Cincinnati Fan HDBI-330 HD Backward Inclined Wheel (55% Width) @ 1,755 RPM  
 Rating Point: 14,000 ACFM @ 10.0 in. wg SP, 0.075 lb./ft.<sup>3</sup> Density, 31.7 BHP





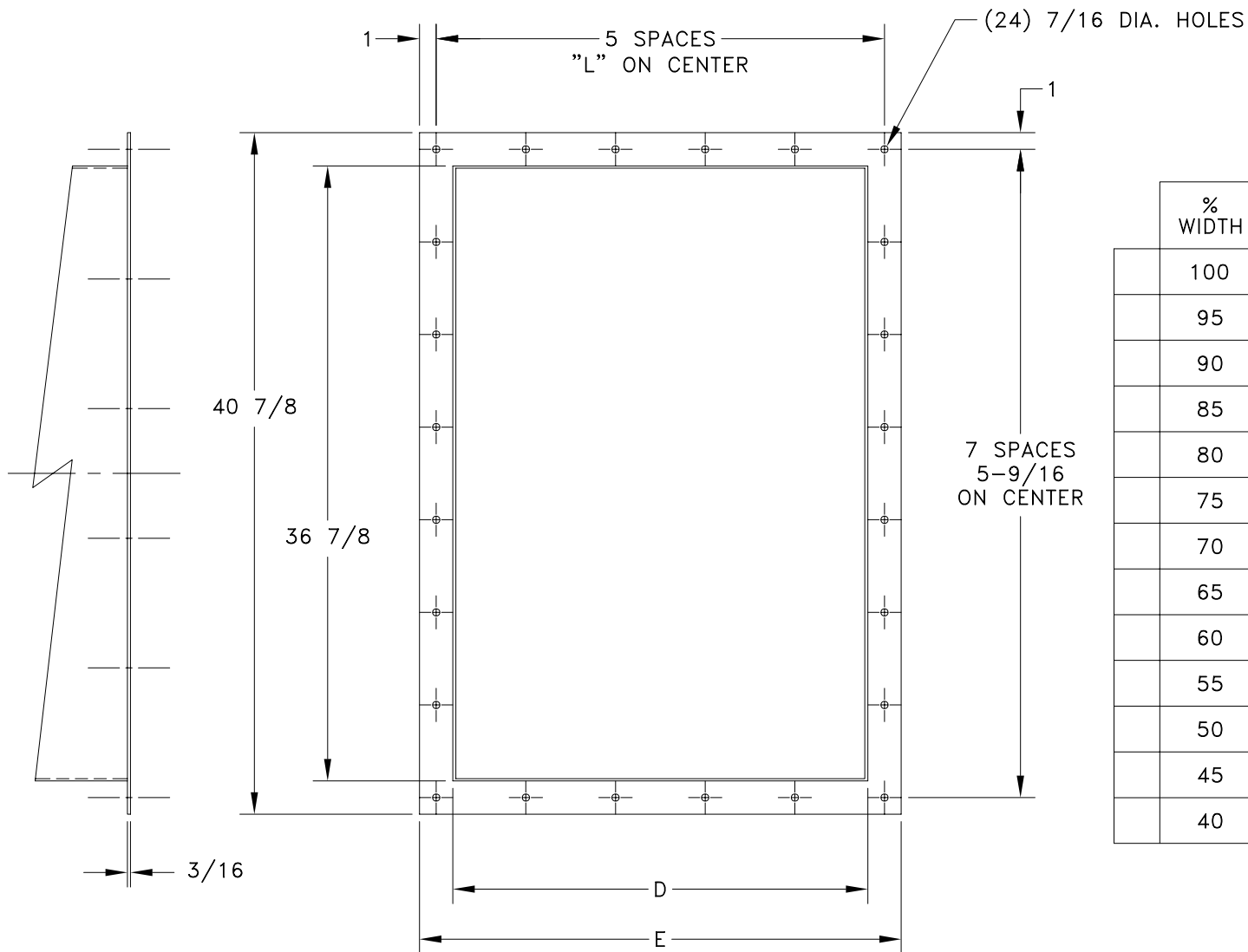
CLOCKWISE BOTTOM HORIZONTAL DISCHARGE SHOWN ABOVE

% WIDTH	D	② G	② J	284T-326T MTR. FR.				364T-405T MTR. FR.				444T MTR. FR.				WEIGHT **			
				H	③ BB	③ CC	HH	H	③ BB	③ CC	HH	H	③ BB	③ CC	HH	284-326T	364-365T	404-405T	444T
100%	24 7/8	15 15/16	14 1/2	20	55 1/8	54 15/16	27	25	60 1/8	59 15/16	32	29	64 1/8	63 15/16	36	1010	1030	1160	1195
95%	24 1/4	15 5/8	14 3/16		54 1/2	54 5/16			59 1/2	59 5/16			63 1/2	63 5/16		1005	1025	1155	1190
90%	23 9/16	15 9/32	13 27/32		53 13/16	53 5/8			58 13/16	58 5/8			62 13/16	62 5/8		1000	1020	1150	1185
85%	22 15/16	14 31/32	13 17/32		53 3/16	53			58 3/16	58			62 3/16	62		995	1015	1145	1180
80%	22 1/4	14 5/8	13 3/16		52 1/2	52 5/16			57 1/2	57 5/16			61 1/2	61 5/16		990	1010	1140	1175
75%	21 5/8	14 5/16	12 7/8		51 7/8	51 11/16			56 7/8	56 11/16			60 7/8	60 11/16		985	1005	1135	1170
70%	20 15/16	13 31/32	12 17/32		51 3/16	51			56 3/16	56			60 3/16	60		980	1000	1130	1165
65%	20 5/16	13 21/32	12 7/32		50 9/16	50 3/8			55 9/16	55 3/8			59 9/16	59 3/8		975	995	1125	1160
60%	19 5/8	13 5/16	11 7/8		49 7/8	49 11/16			54 7/8	54 11/16			58 7/8	58 11/16		970	990	1120	1155
55%	19	13	11 9/16		49 1/4	49 1/16			54 1/4	54 1/16			58 1/4	58 1/16		965	985	1115	1150
50%	18 5/16	12 21/32	11 7/32		48 9/16	48 3/8			53 9/16	53 3/8			57 9/16	57 3/8		960	980	1110	1145

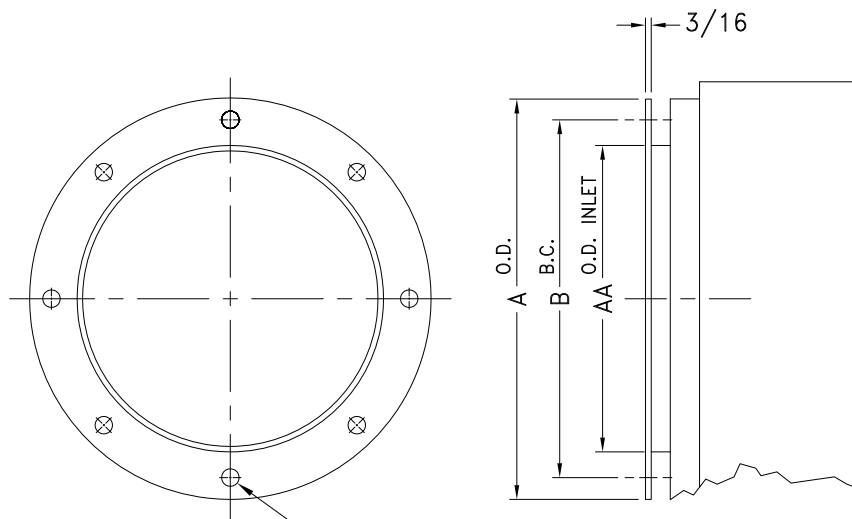
NOTES:

1. FAN HOUSING IS FIXED.
2. ADD 1/8" FOR AMCA "C" CONSTRUCTION FANS.
3. ADD 1/4" FOR AMCA "C" CONSTRUCTION FANS.
4. DISCHARGE FLANGE IS STANDARD, SEE DRAWING A27453.
5. OPTIONAL INLET FLANGE, SEE DRAWING A27205.
6. DOWN BLAST DISCHARGE ORIENTATION NOT AVAILABLE.

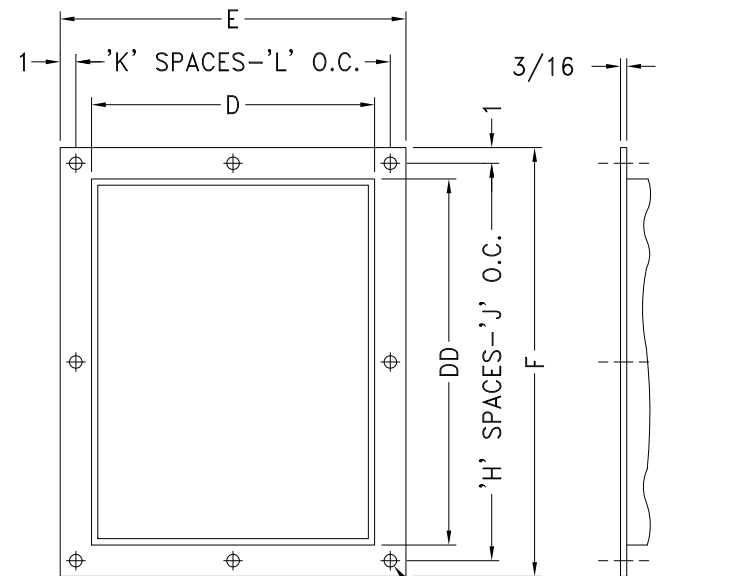
\*\* WEIGHT DOES NOT INCLUDE MOTOR OR OPTIONS.



% WIDTH	"D"	"E"	"L"
100	24-7/8	28-7/8	5-3/8
95	24-1/4	28-1/4	5-1/4
90	23-9/16	27-9/16	5-1/8
85	22-15/16	26-15/16	5
80	22-1/4	26-1/4	4-27/32
75	21-5/8	25-5/8	4-23/32
70	20-15/16	24-15/16	4-19/32
65	20-5/16	24-5/16	4-15/32
60	19-5/8	23-5/8	4-5/16
55	19	23	4-3/16
50	18-5/16	22-5/16	4-1/16
45	17-11/16	21-11/16	3-15/16
40	17-1/16	21-1/16	3-13/16



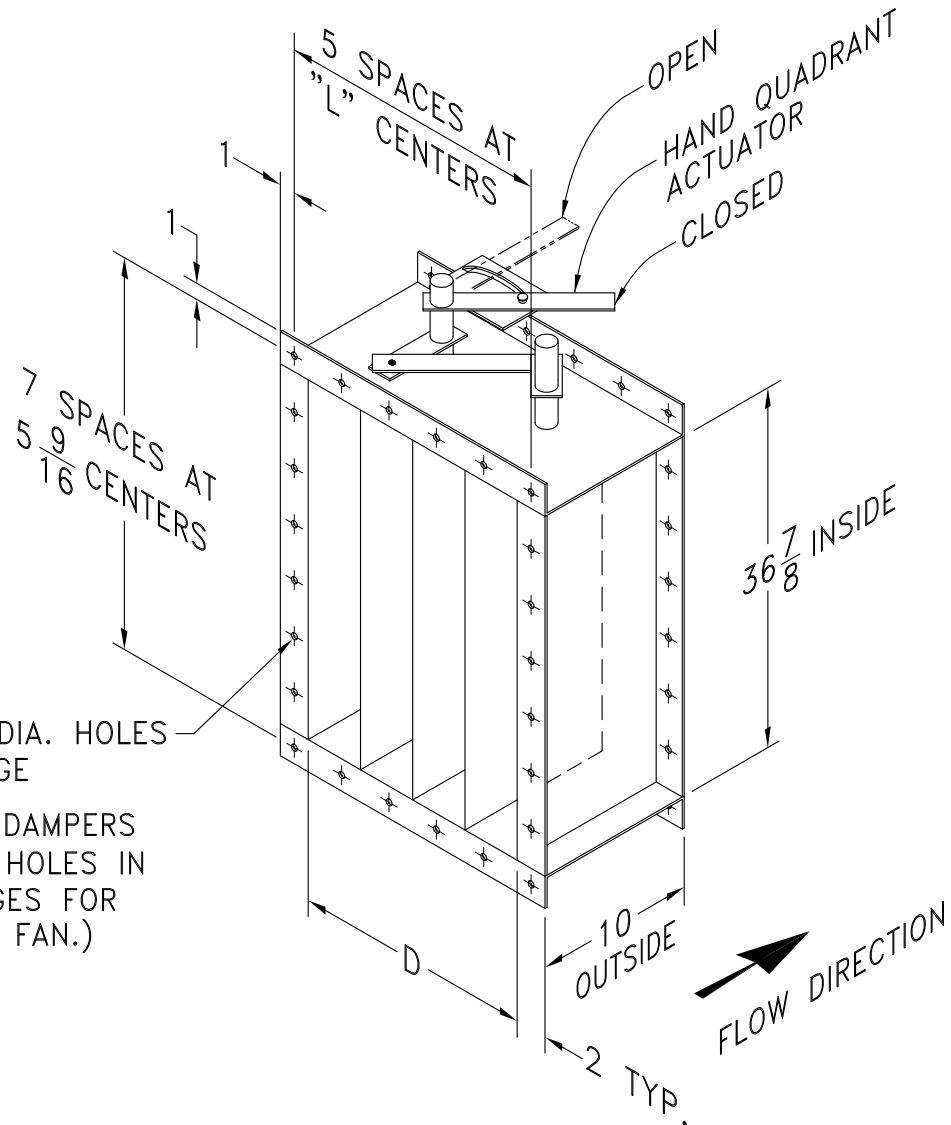
INLET FLANGE "N" HOLES, "P" DIA.



DISCHARGE FLANGE ① "M" 7/16 DIA. HOLES

SIZE	INLET					DISCHARGE								
	A O.D.	B B.C.	N	AA DIA.	P	D	E	F	H	J	K	L	M	DD
120	16	14-3/8	8	13-1/4	7/16	9-3/8	13-3/8	17-11/16	2	7-27/32	2	5-11/16	8	13-3/4
130	17-3/4	15-15/16	8	14-5/8	7/16	10-3/8	14-3/8	19-3/16	2	8-19/32	2	6-3/16	8	15-1/4
150	19-1/4	17-1/2	8	16-1/8	7/16	11-3/8	15-3/8	20-3/4	3	6-1/4	2	6-11/16	10	16-13/16
160	21-1/8	19-3/8	8	18	7/16	12-1/2	16-1/2	22-7/16	3	6-13/16	2	7-1/4	10	18-7/16
180	23-1/2	21-1/2	12	20	7/16	13-7/8	17-7/8	24-1/2	3	7-1/2	2	7-15/16	10	20-3/8
200	25-1/2	23-1/2	12	22	7/16	15-1/4	19-1/4	26-3/8	3	8-1/8	3	5-3/4	12	22-3/8
220	28-1/8	26-1/8	12	24-5/8	7/16	16-7/8	20-15/16	28-7/8	4	6-23/32	3	6-5/16	14	24-7/8
240	30-3/4	28-3/4	16	27	7/16	18-9/16	22-5/8	31-3/8	4	7-11/32	3	6-7/8	14	27-3/8
270	33-3/4	31-5/8	16	30	7/16	20-7/16	24-1/2	34-1/8	4	8-1/32	3	7-1/2	14	30-1/16
300	37-1/4	35-1/4	16	33-1/2	7/16	22-3/4	26-3/4	37-5/8	5	7-1/8	3	8-1/4	16	33-9/16
330	40-3/8	38-3/4	16	36-3/4	1/2	24-7/8	28-7/8	40-7/8	7	5-9/16	5	5-3/8	24	36-3/4
360	43-5/8	42	16	40	1/2	27-1/4	31-1/4	44-1/4	7	6-1/32	5	5-27/32	24	40-1/4

NOTE:  
 ① NOT AVAILABLE ON ANY MODEL FOR DOWNBLAST, BOTTOM ANGULAR DOWN OR TOP ANGULAR DOWN DISCHARGE POSITIONS.  
 DISCHARGE FLANGE IS STANDARD ON SIZES -270 THRU -360.



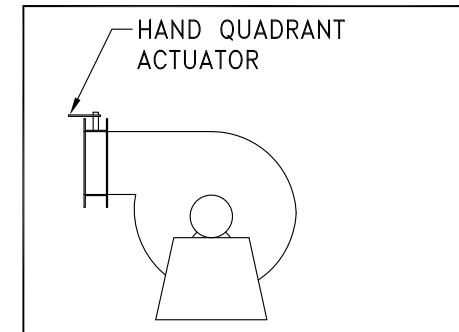
(24) 7/16 DIA. HOLES EACH FLANGE

(STANDARD DAMPERS HAVE BOLT HOLES IN BOTH FLANGES FOR BOLTING TO FAN.)

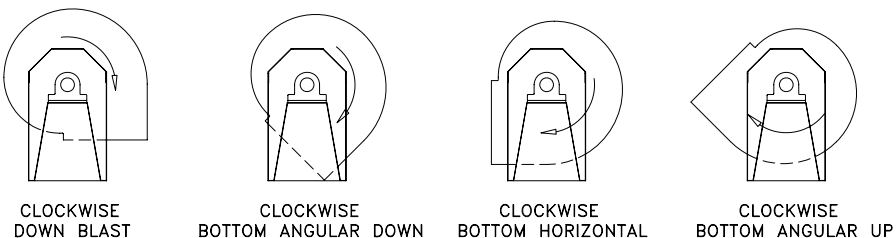
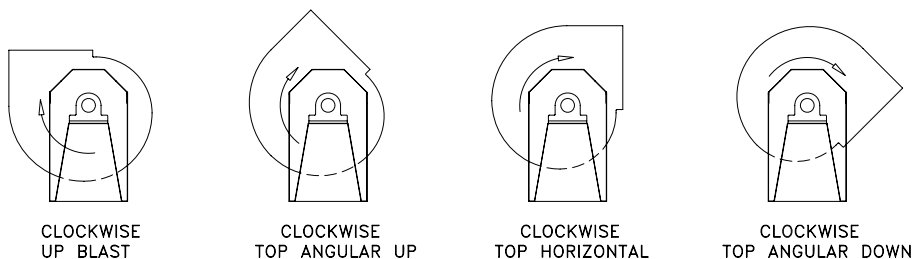
% WIDTH	D	L
100	24-7/8	5-3/8
95	24-1/4	5-1/4
90	23-9/16	5-1/8
85	22-15/16	5
80	22-1/4	4-27/32
75	21-5/8	4-23/32
70	20-15/16	4-19/32
65	20-5/16	4-15/32
60	19-5/8	4-5/16
55	19	4-3/16
50	18-5/16	4-1/16
45	17-11/16	3-15/16
40	17-1/16	3-13/16

NOTES:

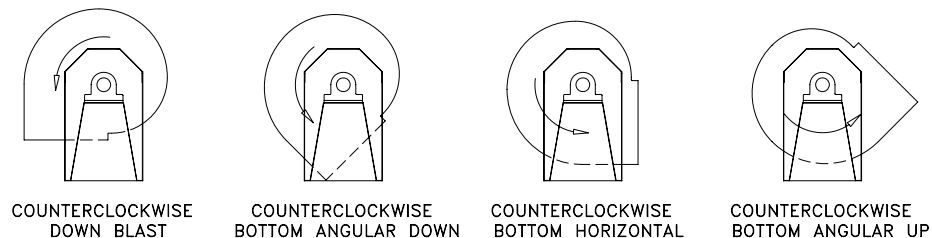
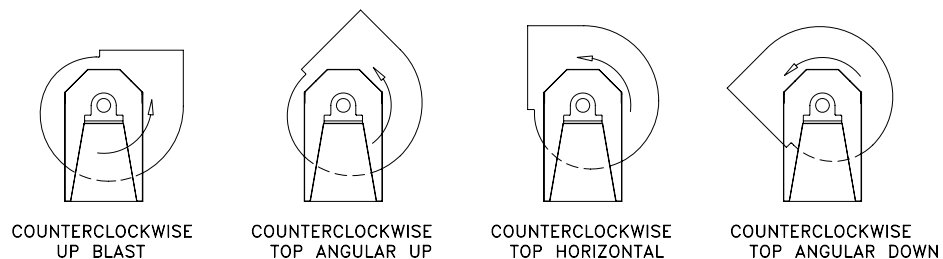
1. OPPOSED BLADE IS STANDARD. □ PARALLEL BLADE IS OPTIONAL.
2. DAMPER BLADES WILL BE PERPENDICULAR TO FAN SHAFT.
3. STANDARD MATERIAL IS CARBON STEEL WITH RUST INHIBITING PRIMER. □ OPTIONAL MATERIAL \_\_\_\_\_.
4. STANDARD CONSTRUCTION MAX. TEMPERATURE: 300° F.  
□ OPTIONAL HIGH TEMPERATURE CONSTRUCTION MAX. TEMPERATURE: 800° F.



CLOCKWISE ROTATION



COUNTERCLOCKWISE ROTATION



NOTES:

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