

**AIR COOLED EXCHANGER
SPECIFICATION SHEET**

Date	Thu* 3:16 pm*10-JUL-97
Proposal/Job No.	97B-054-01
Reference	96325-504100-02
Item No.	AC-267

1	Customer	Schedule A, Inc.		
2	Plant Location	Vernon Parish, La		
3	Service	Refrigerant Cond		
4	Model	3 F42-134-2	Type	FORCED
			No. of Bays	3
5	Surface per Unit-Finned Tube	191,500	Ft ²	Bare Tubes 9,045
6	Heat Exchanged	15,450,000	BTU/Hr	MTD (Eff.) 17.1 (Counter Flow) °F
7	Transfer Rate-Finned Tube	4.72	Bare Tube, Service	99.94
			BTU/Hr. Ft ²	°F

PERFORMANCE DATA-TUBE SIDE

9	Fluid Name	PROPANE	Lethal Service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	IN	OUT
10	Total Fluid Entering	Lb/Hr 103,100	Density	Lb/Ft ³	2.14	28.2
11		IN	OUT	Specific Heat (Liq/Vap)	BTU/Lb°F	1.527 / .797 / .527
12	Temperature	°F 173.0	120.0	Cond. avg (Liq/Vap)	BTU/Hr°F	.0470 / .0150
13	Liquid	Lb/Hr	103,100	Pour/Freeze Point	°F	
14	Vapor	Lb/Hr (MW)	103,100 (44.0)	Bubble Point	°F	
15	Nocond	Lb/Hr (MW)		Latent Heat	BTU/Lb	
16	Steam	Lb/Hr		Pressure	Psia	260.0
17	Water	Lb/Hr		Pressure Drop Allow/Calc	Psi	3.00/ 3.05
18	Viscosity (Liq/Vap)	Cp	.1010 / .07900 /	Fouling resist, Inside	ft ² hr °F/BTU	.0010

PERFORMANCE DATA-AIR SIDE

20	Air Quantity	SCFM 1,090,000	Lb/Hr 4,904,000	Altitude	Ft 600
21	Air Quantity/Fan	ACFM 195,500		Temperature In	°F 100.0
22				Temperature Out	°F 113.1
23					

DESIGN - MATERIAL - CONSTRUCTION

25	Design Pressure	300	Psig	Test Pressure	450	Psig	Design Temperature	250/ MDMT -20	°F
26	TUBE BUNDLE		HEADER, Type PLUG BOX			TUBE Material SA-214 WLD			
27	Size	13.4 x 42.0	Material			SA-516 GR-70			
28	No. 3	No. Tube Rows	4	No. Passes	4	Slope	.0000	In/Ft	OD 1.000
	Bays	3	In Parallel	In Series	Plug	A1051818	No./Bundle	274	Min. Thick
	Bundles	3	In Parallel	In Series	Gasket	CS1813	Pitch	2.3125	Length
30	Pass Arrangement (Top to Bottom)	Corrosion Allowance			.0625	In	FIN Type		
31	Rows / Pass	4 / 4			Size In Nozzle (2)			4.00 SCH XS SA-106B	
32					Size Out Nozzle (2)			4.00 SCH XS SA-106B	
33	Steam Coil	NO			Rating & Facing			300 -RF SA-105	
34	Hailscreens	NO			Vent (1)			1-6000	
35	Louvers	ALUM (3) MANUAL			Drain (1)			1-6000	
36	Frame Finish	HTC 1 Coat Galvanize			Header Finish			WMSB 2 Coat Brand Name Paint	
37					Tube Hole Grooving			YES	

MECHANICAL EQUIPMENT

39	FAN Mfg & Model	MOORE 40 5000	DRIVER Type	ELECTRIC MOTOR	SPEED REDUCER Type	V-BELT
40	No./Bay	2	RPM	274	S.F.	1.15
41	Dia.	12.0	Ft.	No. Blades	7	Insul/TR
42	Pitch	ADJ&A.V. W/P	Angle°	13.	No./Bay	2
43	Matl, Blade	ALUMINUM	Hub	CASTALUM	Frame	286T
44	HP/Fan, Des.	27.0	DBA		HP	30.0
					Duty	CHEM
					HP Rating	51.8
					Ratio	6.37
					Support:	SUSPENDE
					FROM	STRUCTURE
					Vibration Switch	MURPHY VS-2EX

STRUCTURE

WALKWAYS

45	Mounting	GRADE	Inlet Header	in. None
46	Windload - PSF	30.0	Seismic	1
47	Finish	HTC 1 Coat Galvanize	Outlet/Return	in. None
			Drive Access	in. None

NOTES

48	Assembled Drive, Structure & Bundles (Within Shipping Restrictions)			
49				
50				
51				
52				
53				
54				
55	Plot Area	40.2 x 42.0	ft	Weight Bundle
				19,260
			Lbs	Total Shipping
				120,200
			Lbs	



THE MOORE COMPANY

800 S. MISSOURI AVENUE
 MARCELINE, MO 64658 USA
 TELEPHONE: (816) 376-3575
 FACSIMILE: (816) 376-2909

INSTALLATION MANUAL

JOB NO.: 50811

SOLD TO SMITHCO ENGINEERING INC.
 PO BOX 571330
 TULSA OK 74157-1330

INVOICE DATE:
 MODEL NO.: 5440/9B-M-12-A-7
 PURCHASE ORDER NO: J16355
 CUSTOMER JOB NO: 97B054
 SHIP REQUIRED: 12-Jun-1997
 PAYMENT TERMS: NET 30 DAYS
 ROUTING: USF DUGAN
 F.O.B. POINT: MARCELINE, MO.
 FREIGHT: PREPAID
 CRATING: STANDARD DOMESTIC

SHIP TO METAL SERVICES, INC.
 4019 S. JACKSON
 TULSA, OK 74107

QTY	DESCRIPTION
3	5440/9B-M-12-A-7
Serial Nos.: F72506 - F72508	
CLASS 5000	ASSEMBLY DATA MATERIAL: ALUMINUM
SERIES: 40 BLADES: 7 ARRANGEMENT: 9B CLEVIS ANGLE: 12.0°	DIA.: 12.00 TYPE: MANUAL MOUNTS: SMALL WEIGHT: HUB LENGTH C/L TO BASE: 2.8 4 INCH HOLE IN AIR SEAL: NO
	BUSHING: E KEYWAY: 0.750" X 0.125" STD. BORE TOL.: +.001" KEYS TO BE SUPPLIED BY TMC AIR OFF: STOP DROOP: 9.0 CH TO TIP: 56.50 BALANCE WT.:
	H DIM.: 3.014" BORE: 2.938" -.000" HUB TRAVEL: ° CUT DROOP 0.0 COLOR CODE:
AIR PERFORMANCE DATA	
ELEVATION: 600 Ft. ACFM/FAN: 195530 STATIC PRESSURE: 0.530" WG VELOCITY THROUGH FAN: 1869 FPM BHP REQUIRED: 25.8 THEORETICAL NO. OF BLADES: 6.9	AIR TEMPERATURE: 100 ° RPM: 274 VELOCITY PRESSURE: 0.190" WG TIP CLEARANCE: 0.36" *MOTOR HP: 30.0 *MAXIMUM APPLIED TORQUE: 1150 FT. LBS. PHUD: 2.05 TOTAL PRESSURE: 0.720" WG EFFICIENCY: 0.86 BLADE LOAD FACTOR: 0.99
* MAXIMUM APPLIED TORQUE USING FACTOR OF NOMINAL TIMES 2.00 CAUTION: (FACTORY SHOULD BE NOTIFIED IF MAX. APPLIED TORQUE OR MOTOR HP IS GREATER THAN THE VALUE SHOWN.)	
ADDITIONAL NOTES: MARK HUBS AND AIRSEALS WITH SMITHCO JOB 97B054	MARKS: P.O. NO. J16355 JOB NO. 97B054



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AIR PERFORMANCE DATA

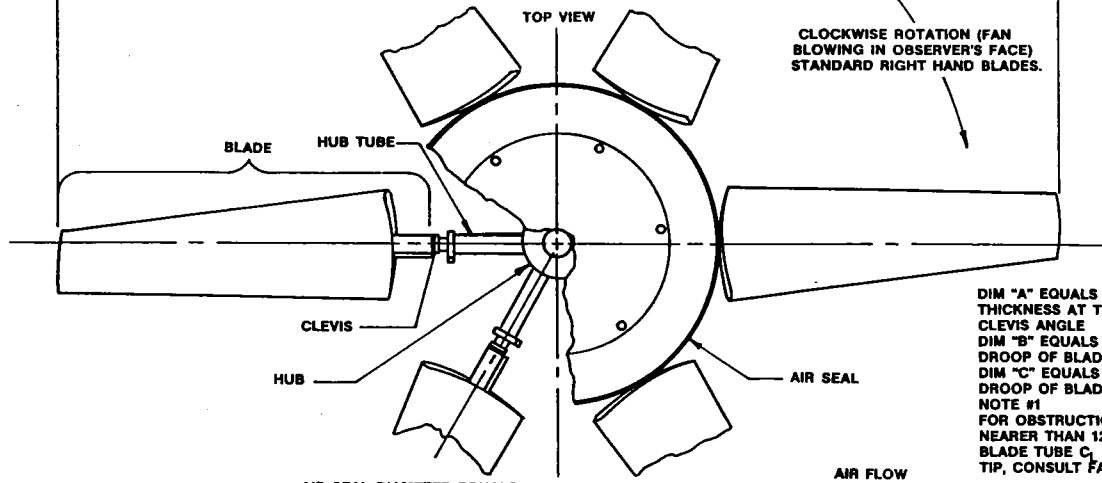
ELEVATION: 600 Ft. AIR TEMPERATURE: 100 ° DENSITY RATIO: 0.926
ACFM/FAN: 195530 RPM: 274 PHUD: 2.05 INLET CORRECTION: 1.0
STATIC PRESSURE: 0.530" WG VELOCITY PRESSURE: 0.190" WG TOTAL PRESSURE: 0.720" WG
VELOCITY THROUGH FAN: 1869 FPM TIP CLEARANCE: 0.36" EFFICIENCY: 0.86
BHP REQUIRED: 25.8 *MOTOR HP: 30.0 *MAXIMUM APPLIED TORQUE: 1150 FT.LBS.
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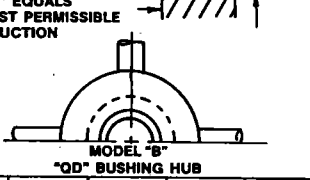
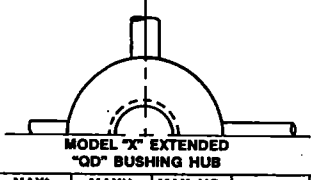
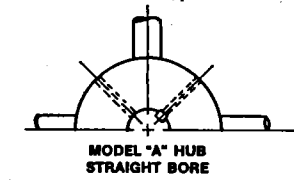
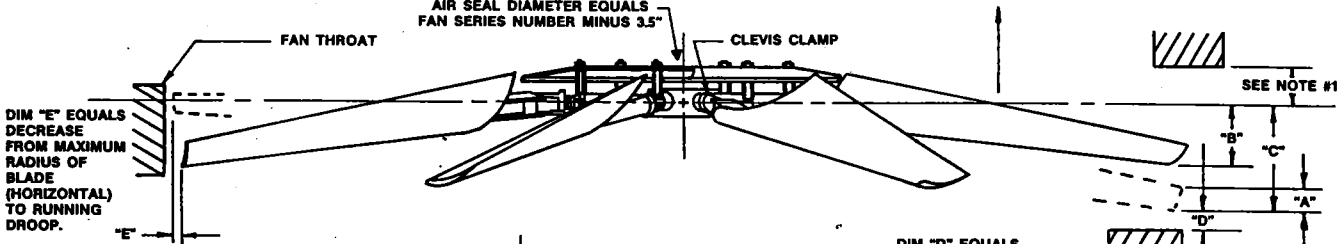
ADDITIONAL NOTES:
MARK HUBS AND AIRSEALS WITH SMITHCO JOB 97B054

MARKS:
P.O. NO. J16355
JOB NO. 97B054

MAXIMUM FAN DIA. BLADES HORIZONTAL
(AS SHIPPED) EQUALS NOMINAL FAN DIA.
A ± 1.5" ADJUSTMENT MAY BE MADE
DURING INSTALLATION.



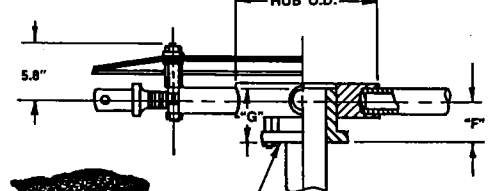
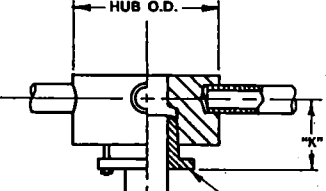
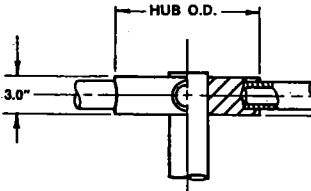
DIM "A" EQUALS BLADE THICKNESS AT TIP AT 10° CLEVIS ANGLE
DIM "B" EQUALS RUNNING DROOP OF BLADES
DIM "C" EQUALS STOP DROOP OF BLADES
NOTE #1
FOR OBSTRUCTIONS NEARER THAN 12" ABOVE BLADE TUBE C, AT BLADE TIP, CONSULT FACTORY.



HUB O.D.	MAX. BORE	MAX. NO. BLADES
8.0"	3.000"	6
9.0"	4.000"	8

HUB O.D.	MAX. BORE	MAX. BORE	MAX. NO. BLADES	BUSHING	DIM. "K"
8.0"	2.313	2.688" (68 mm)	6	SF	5.3"
8.0"	2.875	3.50" (89 mm)	6	E	
9.0"	2.875	3.50" (89 mm)	8	E	

HUB O.D.	MAX. BORE	MAX. BORE	MAX. NO. BLADES	BUSHING	DIM. "F"	DIM. "G"
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9.0"	2.313	2.688" (68 mm)	8	SF	2.5"	2.1"
9.0"	2.875	3.50" (89 mm)	8	E	2.8"	2.7"



SHAFT BY OTHERS SHOULD GO COMPLETELY THROUGH HUB OR "QD" BUSHING

*MAXIMUM BORE DIMENSIONS ARE WITH U.S. STANDARD SQUARE KEY
**MAXIMUM BORE DIMENSIONS ARE WITH U.S. STANDARD SHALLOW KEYWAY

LETTER DIMENSIONS MAY VARY WITH BLADE ANGLE AND LOADING

NOTES
THE MOORE COMPANY JOB NO. 50811
SMITHCO P.O. J16355
SMITHCO JOB NO. 97B054

FAN DIA.	DIM A	WITH FAN OPERATING AT 12000 FT./MINUTE BLADE TIP SPEED				
		PERCENT OF BLADE LOAD		DIM C	DIM D	DIM E
		100%	75%			
6'	3.0"	2.2"	1.9"	4.4"	1.3"	.10"
7'	2.7"	2.8"	2.3"	5.3"	1.6"	.13"
8'	2.2"	3.3"	2.8"	6.2"	1.9"	.17"
9'	1.7"	4.0"	3.2"	7.1"	2.1"	.20"
10'	1.4"	4.8"	3.8"	8.1"	2.4"	.25"
11'	1.3"	5.6"	4.4"	9.0"	2.7"	.31"
12'	1.2"	6.6"	5.2"	9.0"	3.0"	.38"
13'	1.1"	7.7"	6.0"	11.0"	3.3"	.47"
14'	1.0"	8.9"	7.0"	11.9"	3.6"	.59"

SERIES 40 PRESSURE BLOWER



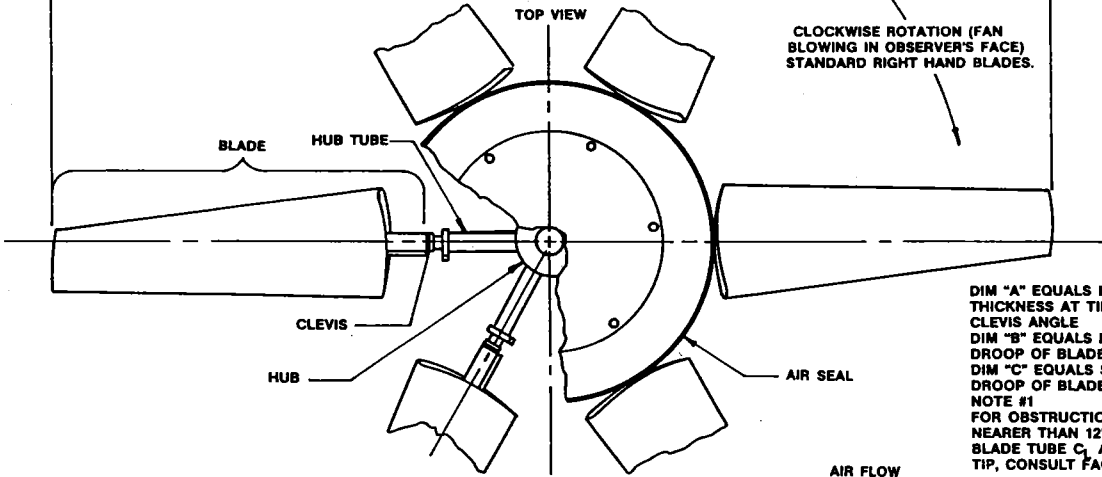
MANUAL ADJUSTMENT ARRANGEMENT M

CLASS 5000

TMC-588 Rev. B (1/82)

CLASS 5000 PRESSURE BLOWER

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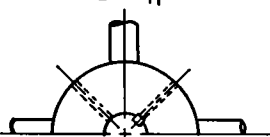
AIR SEAL DIAMETER EQUALS FAN SERIES NUMBER MINUS 3.5"

AIR FLOW

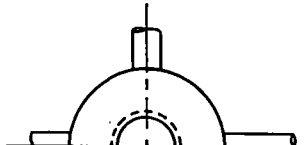
SEE NOTE #1

DIM "E" EQUALS DECREASE FROM MAXIMUM RADIUS OF BLADE (HORIZONTAL) TO RUNNING DROOP.

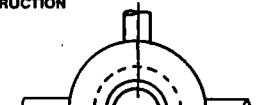
DIM "D" EQUALS NEAREST PERMISSIBLE OBSTRUCTION



MODEL "A" HUB STRAIGHT BORE



MODEL "X" EXTENDED "QD" BUSHING HUB

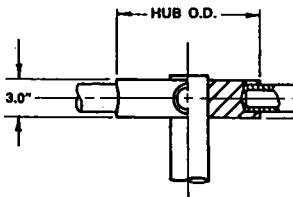


MODEL "B" "QD" BUSHING HUB

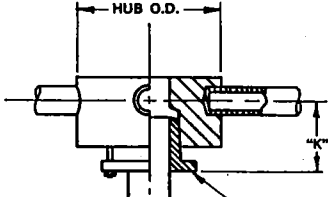
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9.0"	2.875	3.50" (80 mm)	8	E	

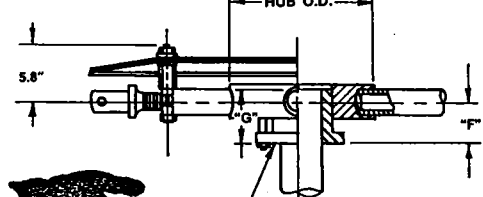
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SMITHCO P.O. J16355

SMITHCO JOB NO. 97B054

WITH FAN OPERATING AT 12000 FT./MINUTE BLADE TIP SPEED

PERCENT OF BLADE LOAD

FAN DIA.	DIM A	100%		75%		DIM C	DIM D	DIM E
		DIM B	DIM B	DIM C	DIM D			
6'	3.0"	2.2"	1.9"	4.4"	1.3"	.10"		
7'	2.7"	2.8"	2.3"	5.3"	1.6"	.13"		
8'	2.2"	3.3"	2.8"	6.2"	1.9"	.17"		
9'	1.7"	4.0"	3.2"	7.1"	2.1"	.20"		
10'	1.4"	4.8"	3.8"	8.1"	2.4"	.25"		
11'	1.3"	5.6"	4.4"	9.0"	2.7"	.31"		
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SERIES 40 PRESSURE BLOWER

THE

Moore

COMPANY

MANUAL ADJUSTMENT ARRANGEMENT M

CLASS 5000

CLASS 5000 SERIES 40 PRESSURE BLOWER