

Sheldons Engineering Product Index

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MATERIAL HANDLING-RADIAL BLADE CENTRIFUGAL FAN -9000 XO (XO-CT)

GENERAL

The centrifugal fan shall be designed and manufactured by Sheldons Engineering to ensure smooth operation. Fan wheel shall be radial paddle wheel "XO" as shown in plans with all steel construction. Unless otherwise directed, fan arrangement, motor location, support base, rotation and discharge are as shown on the layout drawings. Fan size is defined as the OD in inches of the fan inlet.

PERFORMANCE

Fan ratings shall be based on tests made in accordance with AMCA Standard 210. Flow shall be actual volumetric flow at the fan inlet. Fan static pressure is defined as static pressure at fan outlet less total pressure at fan inlet. Standard inlet density is to be taken as 0.75 lb/ft³ with corrections for temperature, elevation, inlet static pressure, gas composition and humidity as defined in the schedule. Fans shall be selected to operate to the right of the peak static pressure at the given speed to ensure stable performance. Fan brake horsepower shall rise continuously over the entire range of flows for a given speed and shall be equal to or less than specified at the given flow and fan static pressure.

SOUND

Fan manufacturers shall provide sound power level ratings for fans tested and rated in accordance with AMCA Standards 300 and 301. Sound power ratings shall be in decibels (reference 10-12 watts) in eight octave bands. Sound power levels will be corrected for installation by the specifying engineer...dBA or sound pressure levels only are not acceptable.

CONSTRUCTION

Fan housings are to be heavy -- min. gauge per chart below, continuously welded construction with flanged and punched outlet. Housings with lock seams or spot welded construction are not acceptable.

Fan Size	Class I (12 M)	Class II & III (15 &19M)	Class IV (22M)
7-11	14 gauge (0.0747" or 1.89 mm)	12 gauge	10 gauge
13-26	12 gauge (0.1046" or 2.66 mm)	10 gauge	7 gauge
29-37	10 gauge (0.1345" or 3.43 mm)	7 gauge	1/4"
41-49	7 gauge (0.1875" or 4.76 mm)	1/4"	1/4"
54-60		3/8"	3/8"

BEARINGS (belt driven fans)

Bearings are to be heavy duty, grease lubricated, precision anti-friction, self-aligning pillow block design. Bearings shall be designed for a minimum L_{10} life per the chart below when rated at the fan's maximum cataloged operating speed.

Class	l	II	III	IV	
MIN. L ₁₀ Life	30,000	40,000	100,000	400,000	



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SHAFT (belt driven fans)

Shafts are to be ASTM A-108 steel, grade 1040/1045, precision turned, ground and polished. Grade 1018 steel is not acceptable. The shaft's first critical speed shall be at least 143% of the fan's maximum operating speed.

PAINT

All fan surfaces are to be thoroughly prepared prior to painting using a combination of washing and hand and power tool cleaning as required in SSPC-SP-3. After cleaning, all surfaces are to be coated with a zinc rich oxide primer. Surfaces of bolted components not accessible after assembly shall be coated and allowed to dry prior to final assembly.

BALANCE & INSPECTION

All fans shall be precision balanced to ISO quality grade 2.5, report to be submitted with the maintenance manual. A final inspection by a qualified inspector prior to shipment is required to include: scope of supply confirmation, balance, welding, dimensions, bearings, duct and base connection points, paint finish and overall workmanship.

ACCESSORIES

Accessories shall be provided as called for in the plans and specifications. Standard accessories include:

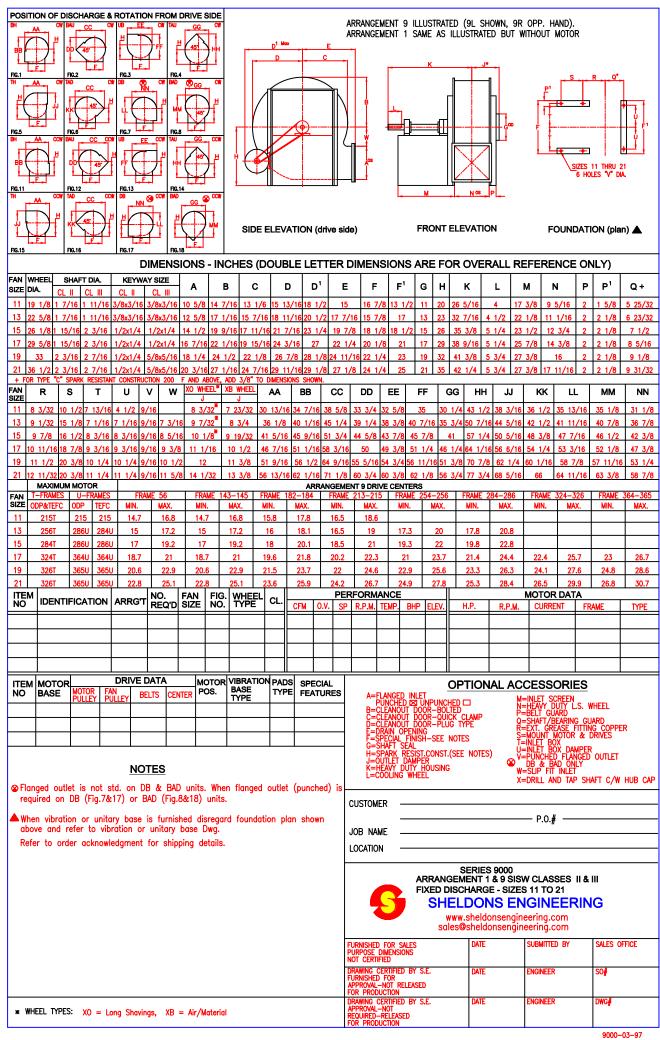
Motor to be NEMA Design B 3/60/460-575V-1800 rpm, high efficiency TEFC 1.15 SF V-Belt Drives - Variable Speed/Constant Speed with min 1.5 SF Belt Guard or weather cover required Extended lubrication lines (nylon, copper or stainless steel) with fittings terminating in an accessible area.

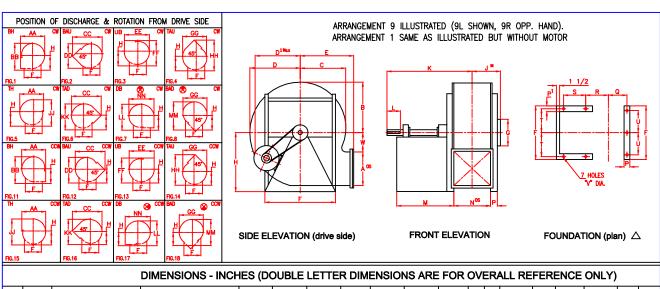
Additional Features that may be required:

XO-CT Chopper style wheel used to shred paper trim in the air stream Access Door – bolted/quick opening or plug type with raised door Housing Drain – pipe ½ coupling or flanged connection Shaft Seal – non-asbestos fibre or spring loaded carbon ring style Bolt-on variable inlet vanes Spark Resistant Construction –

AMCA "A" All parts in contact with the air stream of Aluminum construction AMCA "B" Aluminum wheel with Aluminum rubbing ring around shaft entry point AMCA "C" Aluminum inlet cone and Aluminum rubbing ring

Horizontally Split Fan Housing





110.10		110.10																								
						DIM	ENS	SIONS	- INC	CHES	(DO	UBLE I	ETTE	R DIM	IEN:	SION	IS ARE	FOR	OVI	ER/	ALL RE	FERE	ENCE	ONL	()	
EΔN	WHEEL	5	HAFT	DIA	١.		KE	YWAY S	SIZE						П	. 1										
SIŻE		CL I	CL I	П	CL III	CL	П	CL II	CL III	⊣ ^		В	С	D		ן ים	E	F	G	Н	K	L	М	N	P	P ¹
23	40	2 3/16	2 7/1	16 2	11/16	1/2x1	1/4 5	/8x5/16	5/8x	22 1	/8	29 3/16	26 5/16	32 1/16	34	5/16	29 5/8	37	23	39	50 3/16	7	34 1/2	19 5/1	6 2 1,	/2 2 1/2
26	45 1/8	2 3/16	2 11/	16 2	15/16	1/2x1	1/4 5	/8x5/16	3/4x3	/8 24 15	/16 3	2 15/16	29 11/16	36 3/16	37	3/4	33 3/16	42 1/2	26	44	52 15/16	5 7	36 1/16	22 3/1	6 2 1	/2 3
29	50 1/2	2 7/16	2 11/	16	3 3/16	5/8x5	/16 5	/8x5/16	3/4x3	8 27 3	/4 3	6 13/16	33 3/16	40 7/16	3 41	9/16	37	46 1/4	29	48	58 3/4	8 1/2	39 1/16	24 17/	32 2 1,	/2 3
33	57 1/2	2 7/16	2 15/	16	3 3/16	5/8x5	/16	3/4x3/8	3/4x3	/8 31 3	/4 4	1 15/16	37 3/4	46	43	1/8	41 15/16	51 3/4	33	54	60 7/8	8 1/2	39 9/16	27 11/	16 2 1,	/2 4
37	64 3/8	2 11/16	3 3/1	16 3	3 7/16	5/8x5	/16	3/4x3/8	7/8x7/	16 35 1	/2	46 7/8	42 1/2	51 1/2	45	13/16	46 13/16	57 1/2	37	60	62 9/16	8 1/2	39 9/16	31	3	4
FAN				Ť						EEL XB V	_													. []	
SIZE	Q	R	S		Т	U	l۷	W	J		J	AA	BB	CC		DD	EE	FF	G	G	НН	JJ	KI	`	ᄔ	ММ
23	10 7/8	13 5/	8 25	5 1	17 3/8 1	5 1/2	7/8	12 3/4	15 21	/32 15	1/8	61 11/16	68 3/16	76 3/1	6 66	3/4	64 1/2	68 5/8	62	3/8	84 5/8	73 7/	8 72 1	/2 71	1/16	69 5/8
26	12 5/16	16 1/1	6 26 1	/2	20	18	7/8	14 7/16	17 7/	32 16	5/8	69 3/8	76 15/1	85 13/1	6 75	5 1/4	72 5/16	77 3/16	69	1/8	95 5/16	83 3/	8 81 7	/8 80	3/16	78 1/2
29	13 1/2	17 1/	4 29 1	/2 2	21 7/8 1	9 3/4	7/8	16 5/16	18 7/	32 17	9/16	77 7/16	84 13/1	96		83	30 15/16	85	77	1/4	105 5/16	92 1/1	16 90 3	/8 88	1/2	86 5/8
33	15 1/8	18 13/	16 30) 2	24 3/8 2	21 7/8	1	18 7/16	19 29	/32 19	5/32	87 15/16	95 15/1	109 1/	4	94	92 1/8	95 15/16	8 8	8	119 1/8	104 3/	16 102	1/8	100	98 1/8
37	17	20 1/	2 30) 2	27 1/4 2	24 3/4	1	20 5/8	23 3/	16 22 1	1/32	98 5/16	106 7/8	122	104	9/16	103	106 13/1	6 98	3/8	132 3/4	116 1/	/8 113 1	3/16 11	1 1/2	109 3/16
	MA	XIMUN	1 МОТ	OR								Α	RRANG	EMENT	7 9 D	RIVE	CENTE	RS								
FAN SIZE	T-FRAMI	ES (J-FRAM	ES	FRAME	182-	184	FRAME	213-2	15 F	RAME	254-256	FRAM	E 284-28	36	FRAM	IE 324-32	26 FI	RAME	364-	-365 F	FRAME 40	04-405	FRAM	IE 444	-445
SIZE	ODP&TE	FC	_	EFC	MIN.	_	MAX.	MIN.	_	AX.	MIN.	MAX.	MIN		AX.	MIN			AIN.	_	MAX.	MIN.	MAX.	MI	٧.	MAX.
23	365T		365	365	22.3		25	24.6	2	7.6	26.3	29.8	27.	1 3	1	29.	2 33	.6 :	29.5		34.5				_	
26	405T			405			24.5	24.1	_	7.1	26	29.3			0.5	28.			30.1	_	35.1	30.6	36.3		_	
29	444T		445	444				24.7	2	7.7	26.5	30	27.	3 3	1.1	29.	5 33	.8	30.7		35.7	32.5	38.3	33		39
33	444T		445	444	<u> </u>			27.7	3	1	28.2	31.7	28.	3 3	2.2	29	33	.3	31.5		36.5	34.5	40.5	37		43.5
37	444T	•	445	444							30.2	33.6	32	3	6	35	39	.6	37.5		42.8	40.7	46.8	43	2	49.7
ITEM	,,,,,	ATION	۱,	ARRG'T	NO		FAN		WHEEL	CL.			F	PERF	FORMA	NCE						MOTOR	DATA			
NO	I IDE	INTIFIC	A1101	' '	ANNO I	REC	סיג	SIZE	NO.	TYPE	<u> </u>	CFM	0.V.	SP		R.P.M.	TEMP.	BHP	El	EV.	H.P.	R.P.M.	CURR	ENT F	RAME	TYPE
												1									1					
																				1						

ITEM	MOTOR		DR	IVE DAT	Ά		MOTOR	VIBRATI	ON	PADS	SPECIAL				-
NO	BASE	MOTOR PULLEY	FAN PULLEY	BELTS	S CE	ENTER	POS.	BASE TYPE		TYPE	FEATURI	≣S			<u>OPTI</u>
												A=	=FLANGED	INLET	
												1	PLINCHED		

NOTES

 \triangle When vibration or unitary base is furnished disregard foundation plan shown above and refer to vibration or unitary base Dwg.

Refer to order acknowledgment for shipping details.

OPTIONAL ACCESSORIES

A=FLANGED INLET
PUNCHED
B=CLEANOUT DOOR-BOLTED
C=CLEANOUT DOOR-QUICK CLAMP
D=CLEANOUT DOOR-QUICK CLAMP
D=CLEANOUT DOOR-PLUG TYPE
E=DRAIN OPENING
F=SPECIAL FINISH-SEE NOTES
G=SHATT SEAL
H=SPARK RESIST.CONST.(SEE NOTES)
J=OUTLET DAMPER
K=SHATT AND BRG. GUARD
L=HEAVY DUTY HOUSING

M=SHAFT COOLER AND GUARD
N=INLET SCREEN
P=HEAVY DUTY L.S. WHEEL
Q=HORIZONTAL SPLIT HOUSING
R=BELT GUARD
S=EXT. GREASE FITTINGS
T=MOUNT MOTOR & DRIVES
U=INLET BOX
V=INLET BOX DAMPER
W=SLIP FIT INLET



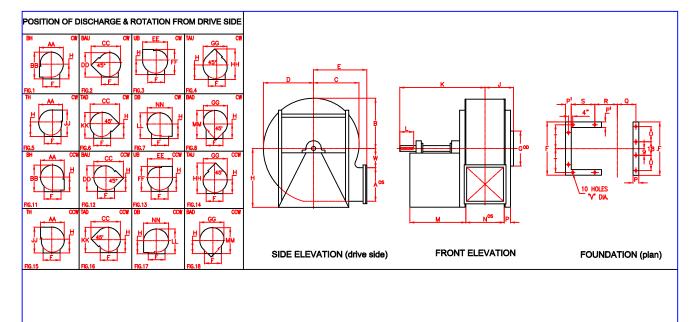
SERIES 9000 ARRANGEMENT 1 & 9 SISW CLASSES I, II & III FIXED DISCHARGE - SIZES 23 TO 37

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* WHEEL TYPES: XO = Long Shavings, XB = Air/Material



DIMENSIONS - INCHES (DOUBLE LETTER DIMENSIONS ARE FOR OVERALL REFERENCE ONLY)

F	AN	WHEEL	┙	SH	IAF	T [DΙΑ		KEYW	A۱	Y SI	ΙZΕ																Н									
\$	IZE	DIA.	t	CL I	Π	CL	III	t	CL II	Τ	CL	Ш		A		В	C	D	1	E	F	G	FIG. 1 &	11	FIG. 2 & 12	FIG.	չ 13	FIG.	k 14	FIG 5	& 15	EG.	16	К	L	М	N
	41	71 1/4	3	7/1	6 3	5 1°	1/10	6 7	/8x7/1	6 7	/8x	7/16	39	1/4	51	7/8	46 3/4	57	52	3/32	74	41	67		64	61	1/2		59	56	1/2	56	1/2	66	8 1/2	44 5/16	34 1/2
	45	78 1/4	3	11/	163	5 15	5 10	6 7	/8x7/1	6	1"x1	/2	43	1/16	56	15/16	51 5/16	62 9/16	5	7	74	45	72 1	/2	72 1/2	6	57	(64	61	1/2	8.)	9	67 5/8	8 1/2	44 5/16	37 3/4

FAN SIZE	Р	P ¹	Q	R	s	Т	T ¹	U	٧	w	XO WHEEL*	XB WHEEL	AA	ВВ	СС	DD	EE	FF	GG	НН	IJ	кк
41	4	5	19 3/4	23 1/4	32 5/16	35	20	21	15/16	22 7/8	24 1/2	23 1/4	114	119	142	114	122	115	117	142	122	116
45	4	5	21 3/8	24 7/8	32 5/16	35	20	21	15/16	25 1/8		25 1/32	125	130	155	127	134	125	128	155	133	125

ITEM			NO.	FAN	FIG.	WHEEL	~		PE	RFORM	ANCE					M	OTOR DA	ATA	
ITEM NO.	IDENTIFICATION	ARRG'T	REQ'D	SIZE	NO.	TYPE	CL.	CFM	0.V.	SP	R.P.M.	TEMP.	BHP	ELEV.	H.P.	R.P.M.	CURRENT	FRAME	TYPE

ITEM	MOTOR		DRIVE	DATA		MOTOR	VIBRATION	PADS	SPECIAL
NO.	BASE	MOTOR PULLEY	FAN PULLEY	BELTS	CENTER	POS.	BASE TYPE	TYPE	FEATURES

NOTES

SPECIAL FEATURES

A=FLANGED INLET
B=FLANGED OUTLET
C=CLEANOUT DOOR-BOLTED
D=CLEANOUT DOOR-QUICK CLAMP
E=CLEANOUT DOOR-PLUG TYPE
F=DRAIN OPENING
G=SPECIAL FINISH-SEE NOTES
H=SHAFT SEAL
J=SPARK RESIST.CONST.(SEE NOTES)
K=OUTLET DAMPER -ST'D

L=OUTLET DAMPER-PARAFLO
M=HEAVY DUTY HOUSING
N=STAINLESS STEEL (SEE NOTES)
P=COOLING WHEEL
Q=INLET SCREEN
R=HEAVY DUTY L.S. WHEEL
S=INSULATION STUDS
T=SLIP FIT INLET

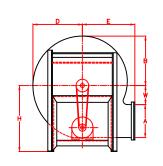
CUSTOMER -	
Job Name	P.O.#
LOCATION .	

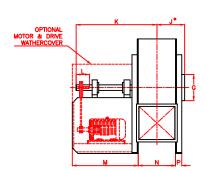


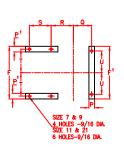
SERIES 9000 ARRANGEMENT 1 & 9 SISW CLASSES II & III FIXED DISCHARGE - SIZES 41 & 45 SHELDONS ENGINEERING

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DIMENSIONS - INCHES (DOUBLE LETTER DIMENSIONS ARE FOR OVERALL REFERENCE ONLY)

FAN		L TYPE	SHAI	FT DIA.	KEYW	AY SIZE	Α	В	В	F	F	F ¹	G	н	к	1	м
SIZE	XO	XB	CL I	CL	CL I	CL II	,,	_	_	-	•	•		L		_	
7	12 1/4	12 1/4	15/16	1 3/16	1/4x1/8	1/4x1/8	6 13/16	8 7/8	9 3/4	9 5/16	14 5/8		7	17	20 9/16	3	18 1/2
11	19 1/8	19 1/8	1 3/16	1 7/16	1/4x1/8	3/8x3/16	10 5/8	13 15/16	15 5/16	14 1/2	17 3/8	13 1/2	11	20	26 5/16	4	22 3/4
13	22 5/8	22 5/8	1 3/16	1 7/16	1/4x1/8	3/8x3/16	12 5/8	16 9/16	18 3/16	16 15/16	21	17	13	23	32 7/16	4 1/2	28
15	26 1/8	26 1/8	1 7/16	1 15/16	3/8x3/16	1/2x1/4	14 1/2	19 1/16	20 15/16	19 3/8	18 3/8	18 1/2	15	26	35 3/8	5 1/4	30
17	29 5/8	29 5/8	1 7/16	1 15/16	3/8x3/16	1/2x1/4	16 7/16	21 9/16	23 11/16	21 3/4	21	21	17	29	38 9/16	5 1/2	32 1/2
19	33	33	1 11/16	2 3/16	3/8x3/16	1/2x1/4	18 1/4	24	26 3/8	24 3/16	22 3/8	23	19	32	41 3/8	5 3/4	34 3/8
21	36 1/2	36 1/2	1 15/16	2 3/16	1/2x1/4	1/2x1/4	20 3/16	26 9/16	29 3/16	26 5/8	26 3/8	25	21	35	42 1/4	5 3/4	34 3/8

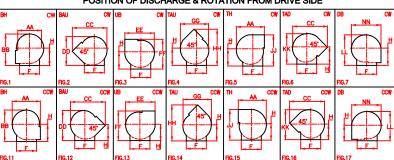
FAN SIZE	N	Р	P ¹	Q	R	s	Т	υ	w	MAX. FRAME
7	6 5/16		1 5/8		6 23/32	11 5/8	6 9/16		3 13/16	145T
11	9 5/16	1 1/2	1 5/8	5 17/32	8 3/32	15 7/8	7 15/16	4 1/2	6 1/16	215T
13	11 1/16	2	1 5/8	6 21/32	9 1/32	21 1/16	10 1/8	7 1/16	7 3/16	215T
15	12 3/4	2	2 1/8	7 1/2	9 7/8	23 1/16	8 7/16	8 3/16	8 5/16	215T
17	14 3/8	2	2 1/8	8 5/16	10 11/16	25 1/2	9 5/8	9 3/16	9 3/8	215T
19	6	2	2 1/8	9 1/8	11 1/2	27 3/8	10 7/16	10 1/4	10 1/2	236T
21	17 11/16	2	2 1/8	9 31/32	12 11/32	27 3/4	12 7/16	11 1/4	11 5/8	236T

OPTIONAL ACCESSORIES

A=FLANGED INLET
B=FLANGED OUTLET
C=CLEANOUT DOOR-BOLTED
D=CLEANOUT DOOR-QUICK CLAMP
E=CLEANOUT DOOR-PLUG TYPE
F=DRAIN OPENING
G=SPECIAL FINISH-SEE NOTES
H=SHAFT SEAL
J=OUTLET DAMPER
K=HEAVY DUTY HOUSING
L=COOLING WHEEL

M=INLET SCREEN
N=HEAVY DUTY XO WHEEL
P=BELT GUARD
Q=SLIP FIT INLET
R=MOTOR AND DRIVE
WEATHERCOVER
S=XB WHEEL

POSITION OF DISCHARGE & ROTATION FROM DRIVE SIDE



ITEM	IDENTIFICATION	NO. REQD.	WHEEL DATA		FIG.	PERFORMANCE						
NO.	IDENTIFICATION		SIZE	TYPE	NO.	CFM	0.V.	SP	R.P.M.	BHP	TEMP.	ELEV.

ITEM			MOTOR DATA	·		DRIVE DATA				
NO.	H.P.	R.P.M.	CURRENT	FRAME	TYPE	MOTOR PULLEY	FAN PULLEY	BELTS	CENTER	SPECIAL FEATURES

NOTES

CUSTOMER

JOB NAME

LOCATION

P.O.#



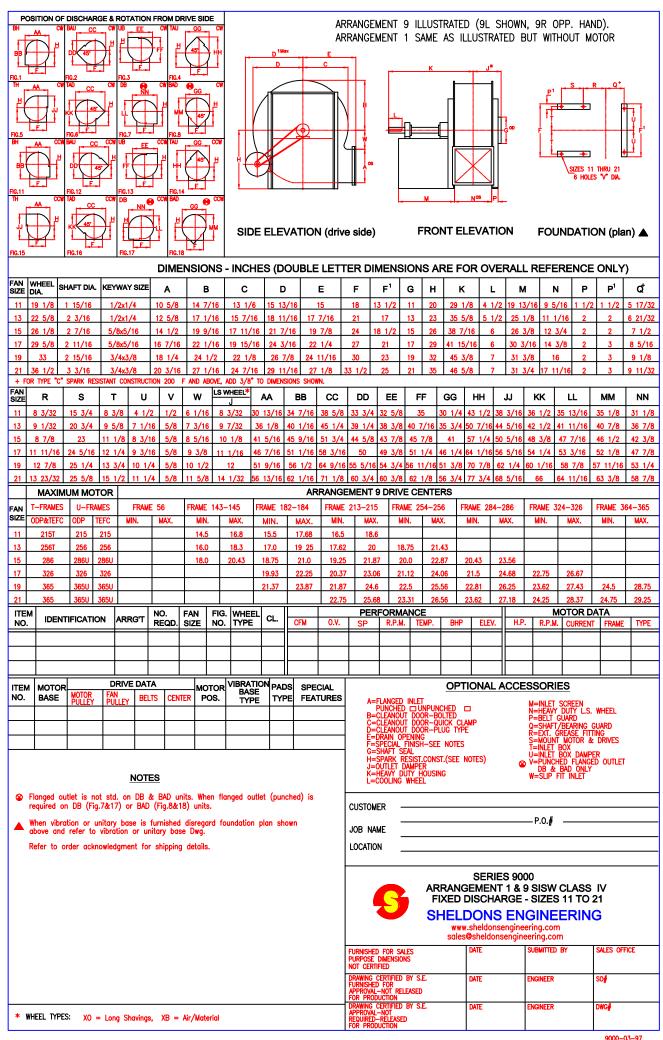
SERIES 9000 ARRANGEMENT 10 SISW CLASSES II & III FIXED DISCHARGE

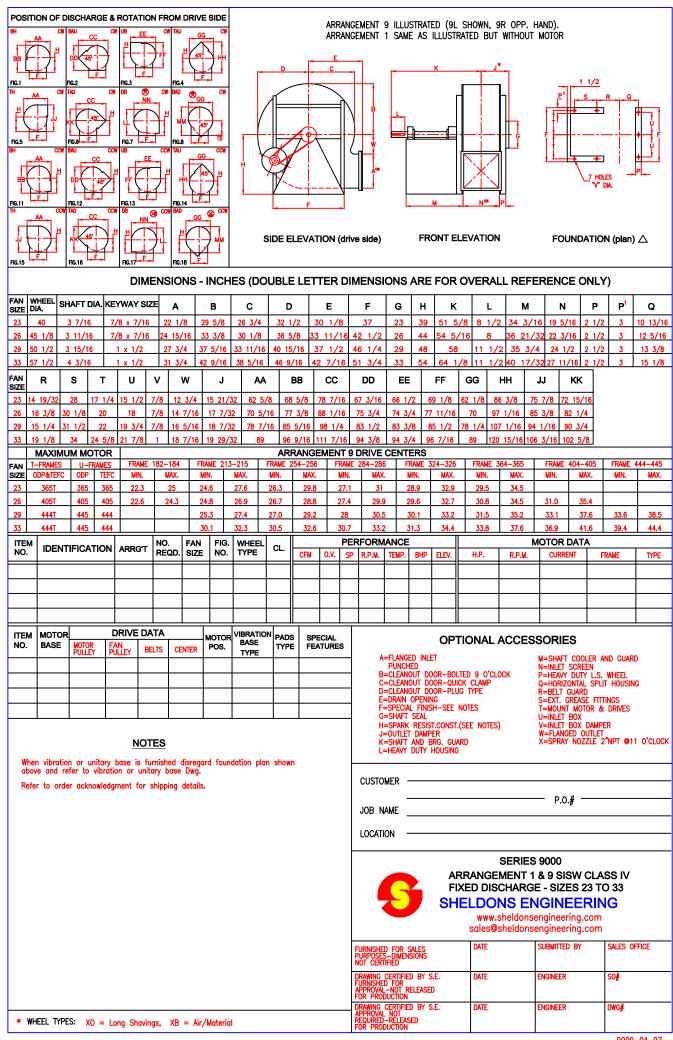
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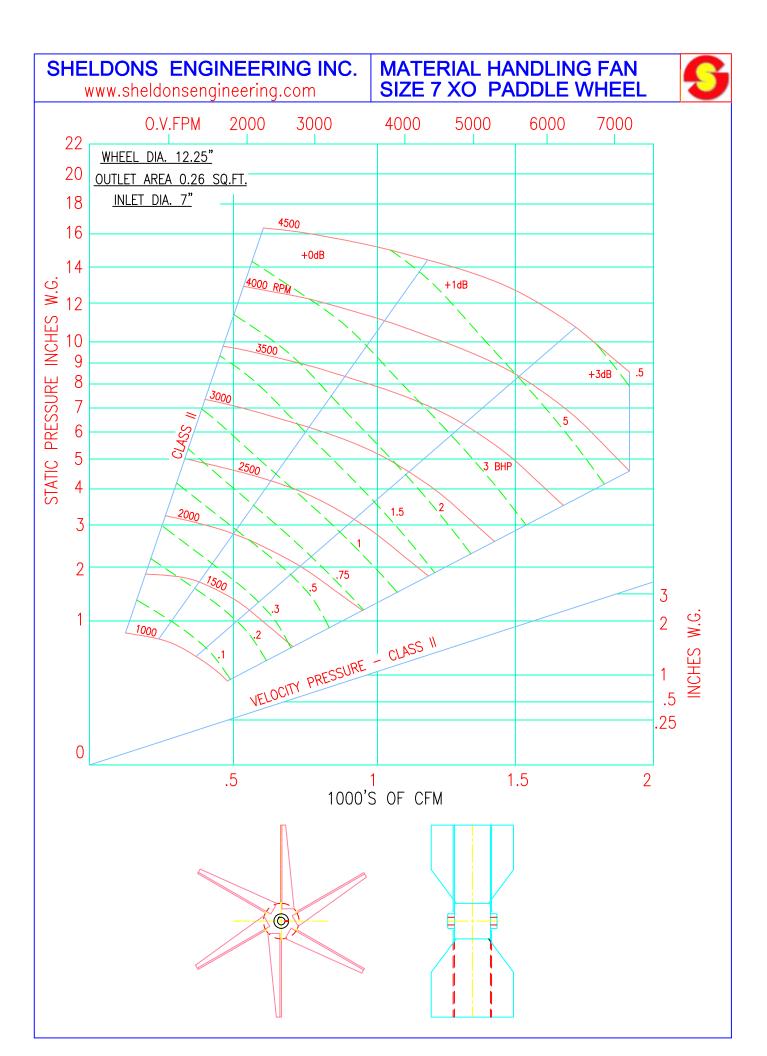
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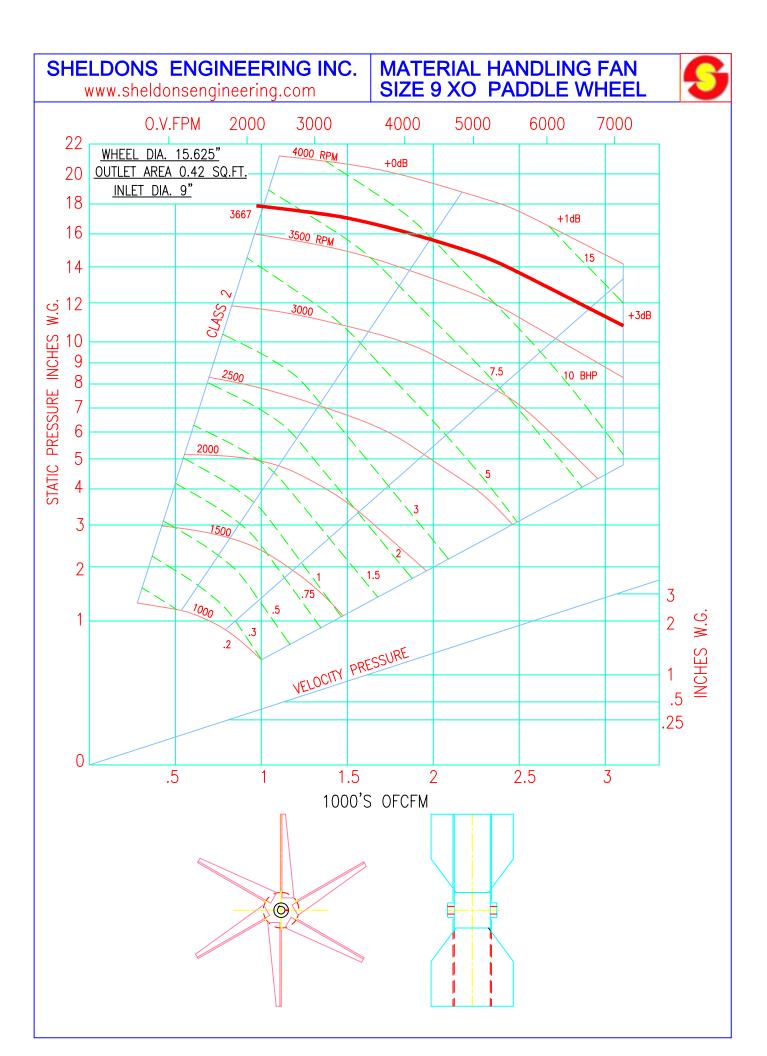
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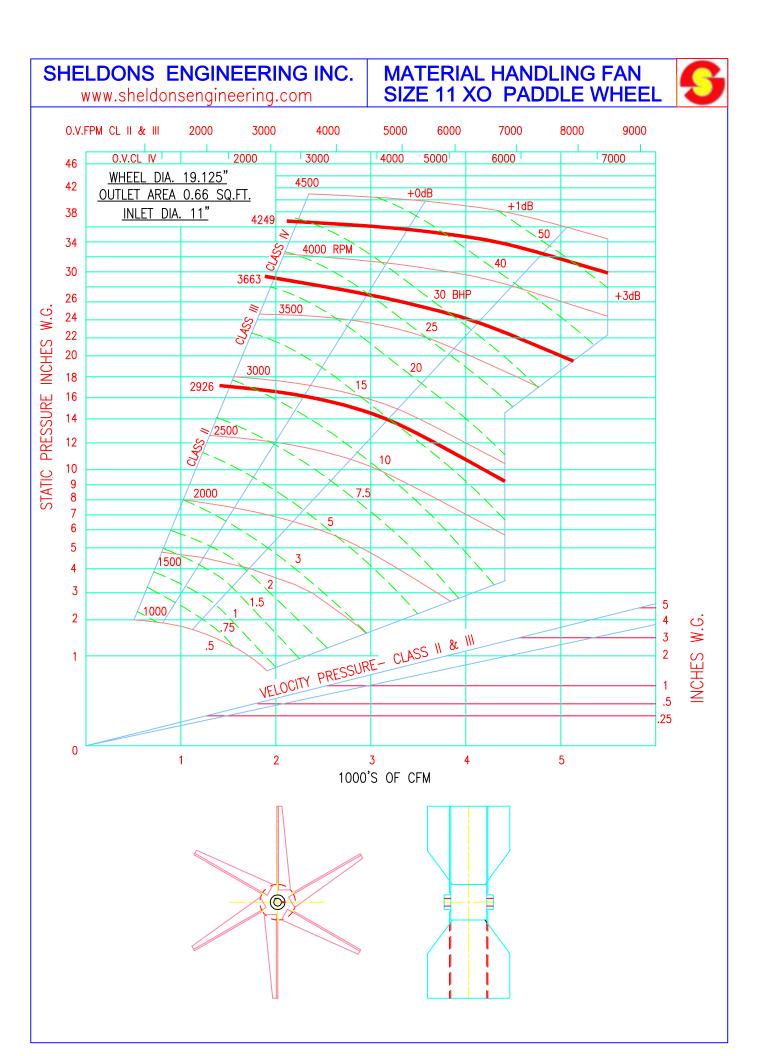
* WHEEL TYPES: XO = Long Shavings, XB = Air/Material







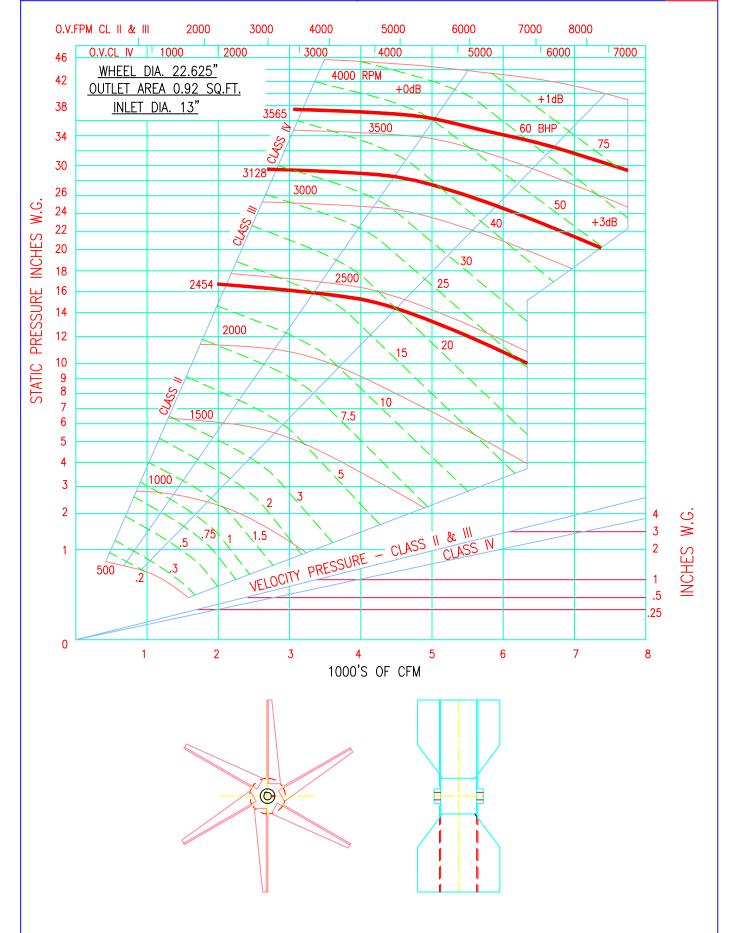




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MATERIAL HANDLING FAN SIZE 13 XO PADDLE WHEEL

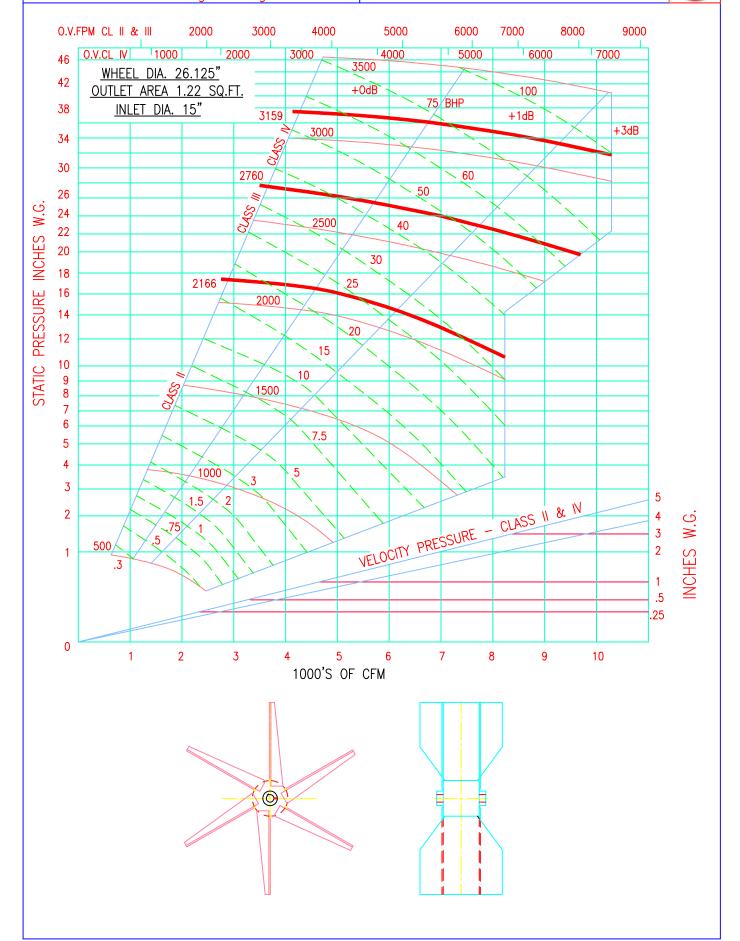




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MATERIAL HANDLING FAN SIZE 15 XO PADDLE WHEEL

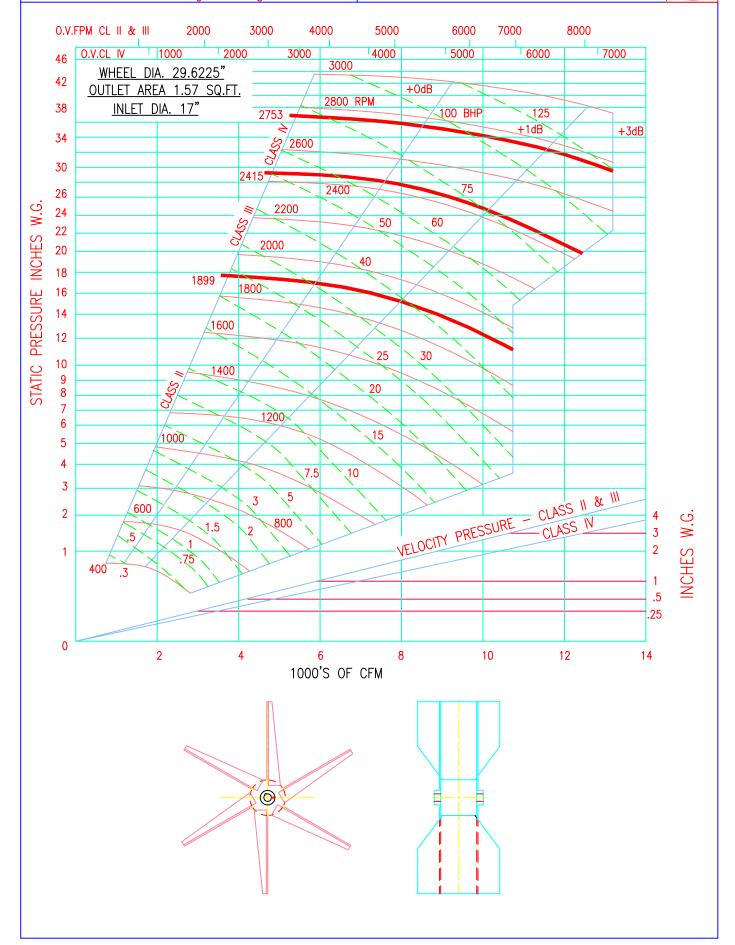




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MATERIAL HANDLING FAN SIZE 17 XO PADDLE WHEEL

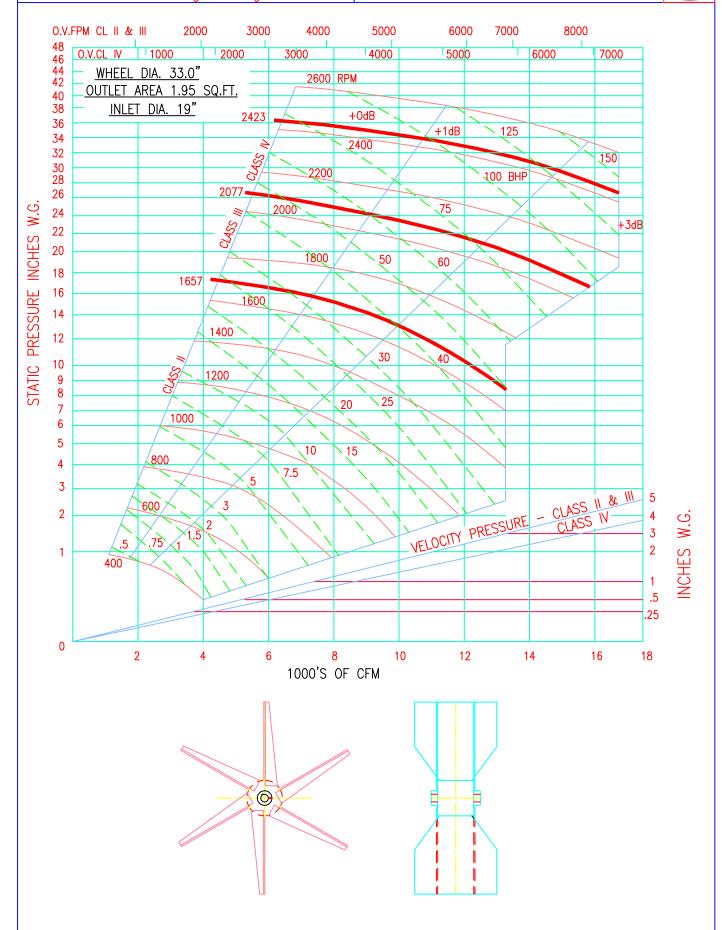




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MATERIAL HANDLING FAN SIZE 19 XO PADDLE WHEEL

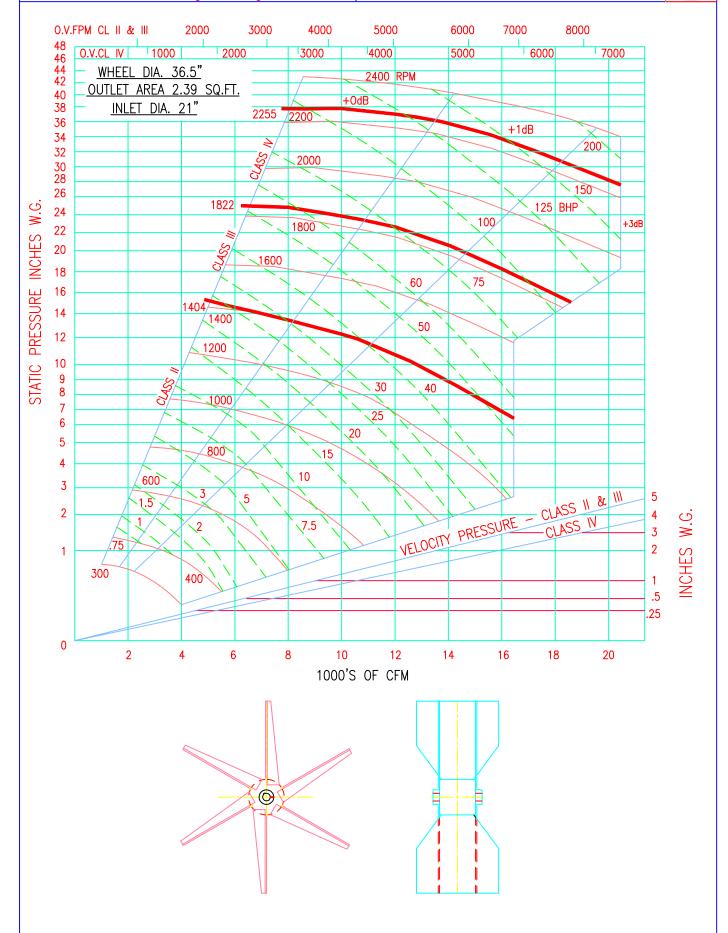




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MATERIAL HANDLING FAN SIZE 21 XO PADDLE WHEEL

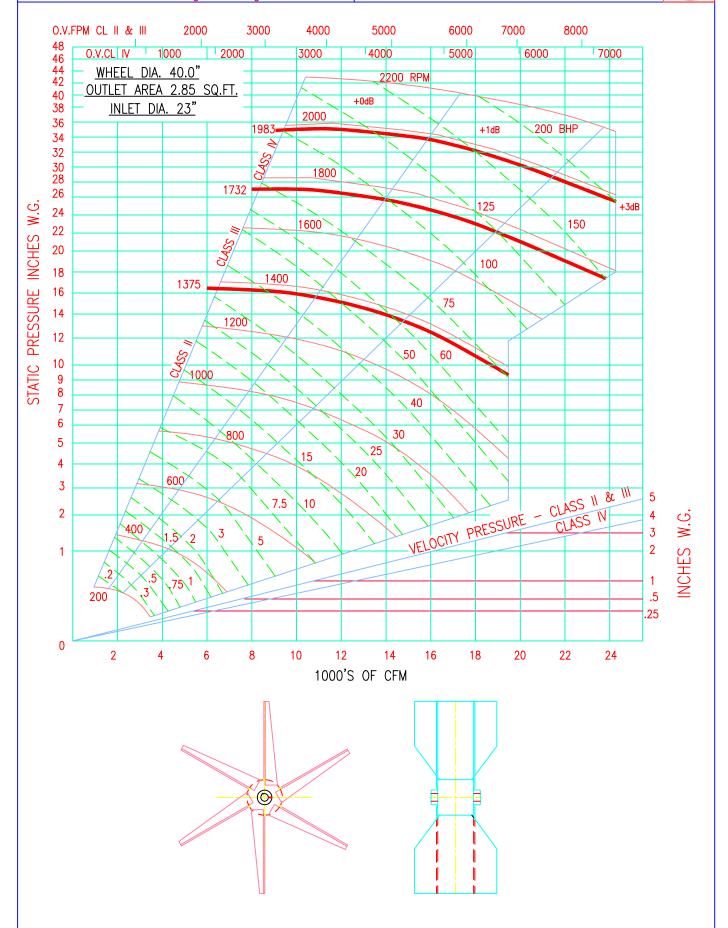




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MATERIAL HANDLING FAN SIZE 23 XO PADDLE WHEEL

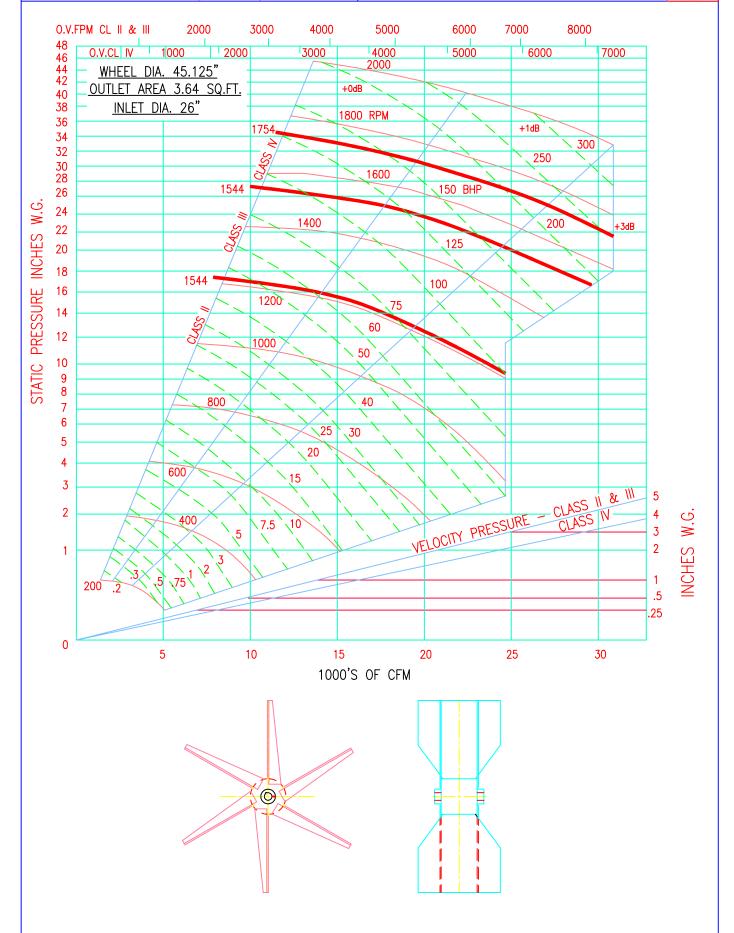




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MATERIAL HANDLING FAN SIZE 26 XO PADDLE WHEEL

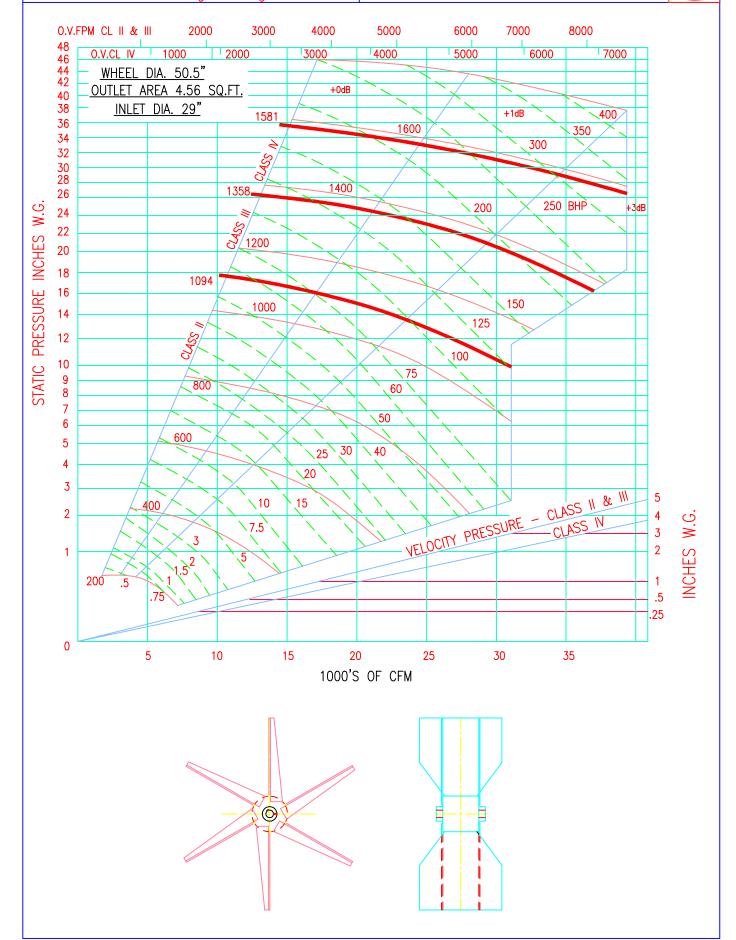




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MATERIAL HANDLING FAN SIZE 29 XO PADDLE WHEEL

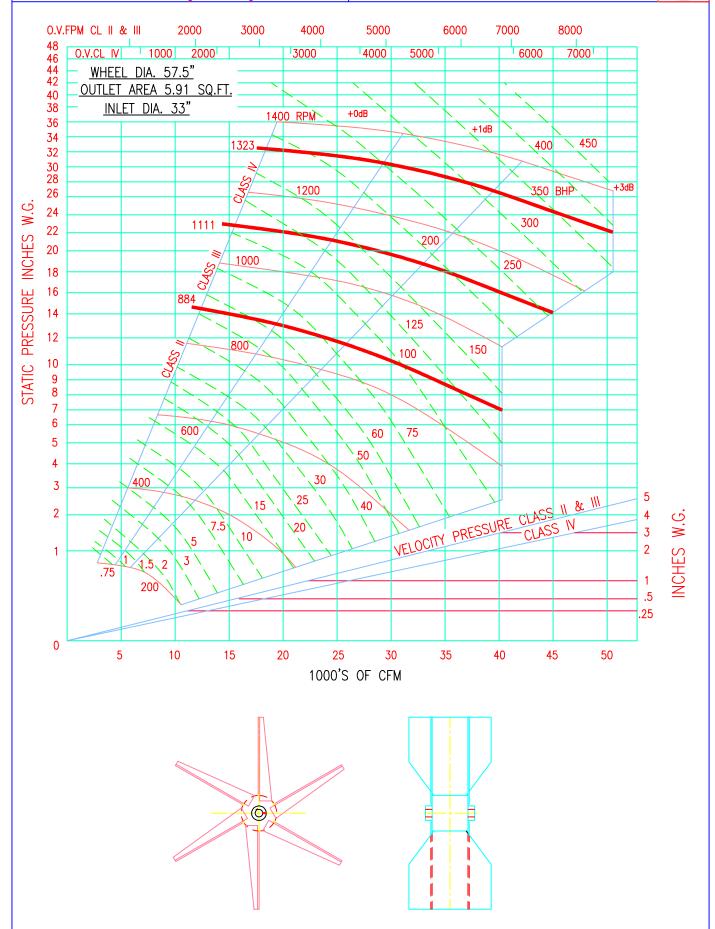




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MATERIAL HANDLING FAN SIZE 33 XO PADDLE WHEEL

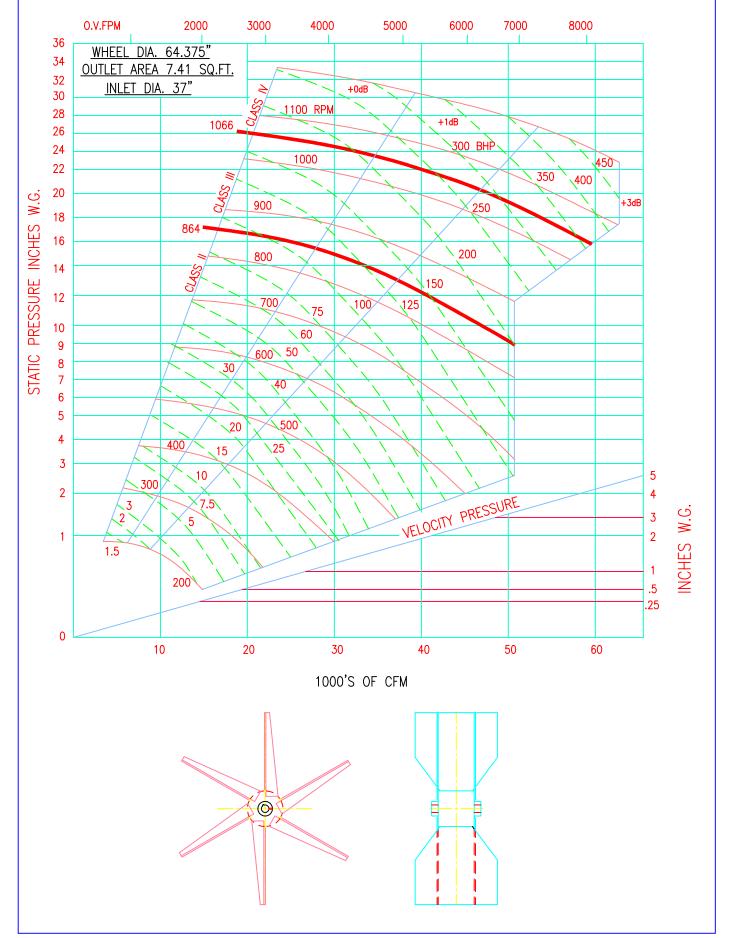




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MATERIAL HANDLING FAN SIZE 37 XO PADDLE WHEEL

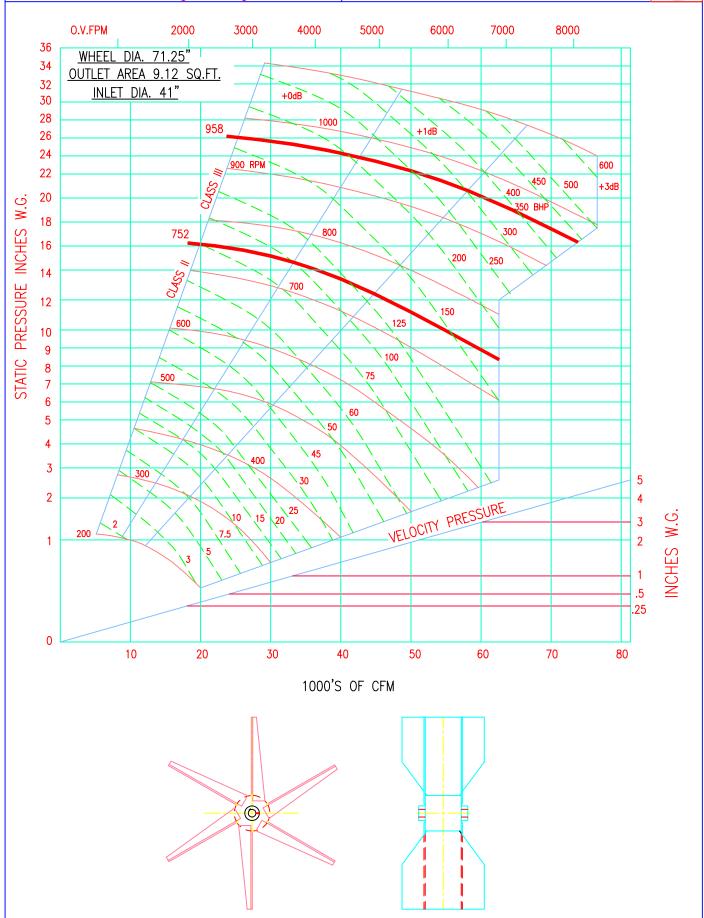




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MATERIAL HANDLING FAN SIZE 41 XO PADDLE WHEEL

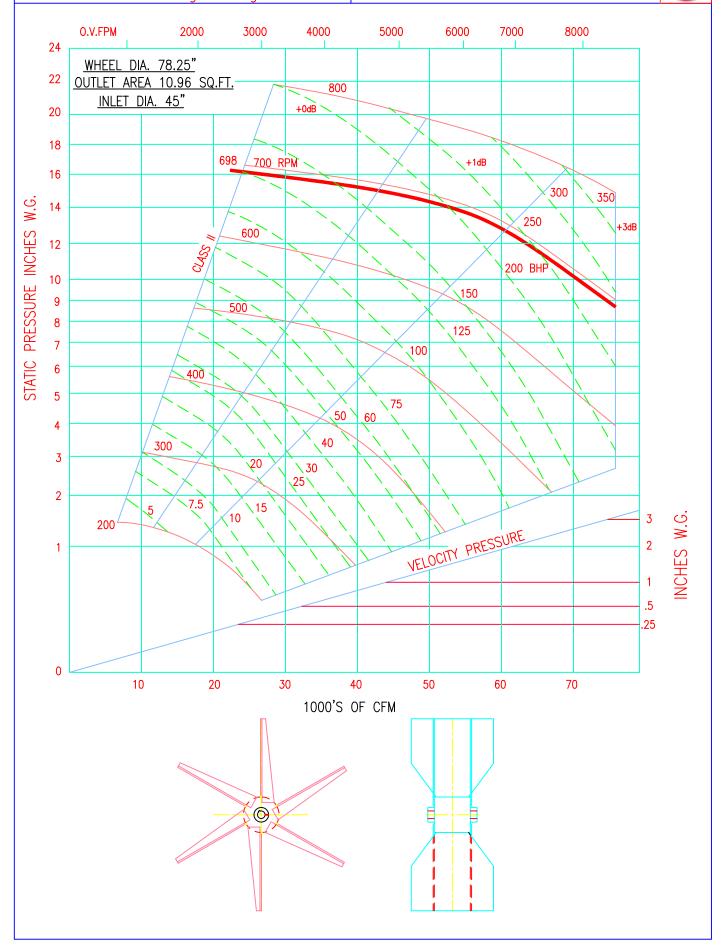




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MATERIAL HANDLING FAN SIZE 45 XO PADDLE WHEEL





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MATERIAL HANDLING FAN SIZE 49 XO PADDLE WHEEL



