



SHELDONS ENGINEERING Inc.

Sheldons Engineering Product Index

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SQUARE BODY RADIAL BLADE CENTRIFUGAL FAN –D6900 GENERAL SPECIFICATION.

The centrifugal fan shall be designed and manufactured by Sheldons Engineering to ensure reliable construction. Fan wheel shall be a radial paddle wheel "XO" (radial tipped with backplate "XC", radial tipped with backplate and shroud "XS", radial with backplate and shroud "XB") 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.

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 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. per table below, continuously welded construction with flanged and punched outlet. Housings with lock seams or spot welded construction are not acceptable. Bearing mounts to be welded perpendicular to the fan shaft.

Fan Size	Housing Thickness
5 – 9	12 ga (0.1046" – 2.7 mm)
11 – 17	10 ga (0.1345" – 3.4 mm)

BEARINGS (belt driven fans)

Bearings are to be heavy duty, grease lubricated, precision anti-friction flange mounted, self-aligning deep groove ball. Bearings shall be designed for a minimum L-10 life of AMCA Class I: 15,000, AMCA Class II: 15,000 up to 24" Dia.—40,000 over, AMCA Class III: 40,000, when rated at the fan's maximum cataloged operating speed for the AMCA class.

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.



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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 (except wheel) are to be coated with industrial grade alkyd enamel. Surfaces of bolted components not accessible after assembly shall be coated and allowed to dry prior to final assembly. Primer only will not be accepted.

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.

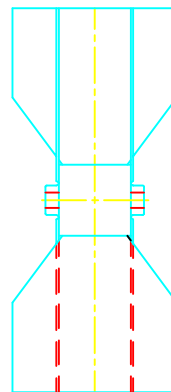
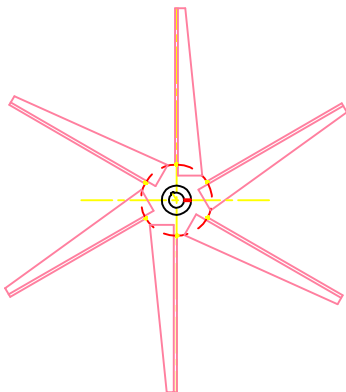
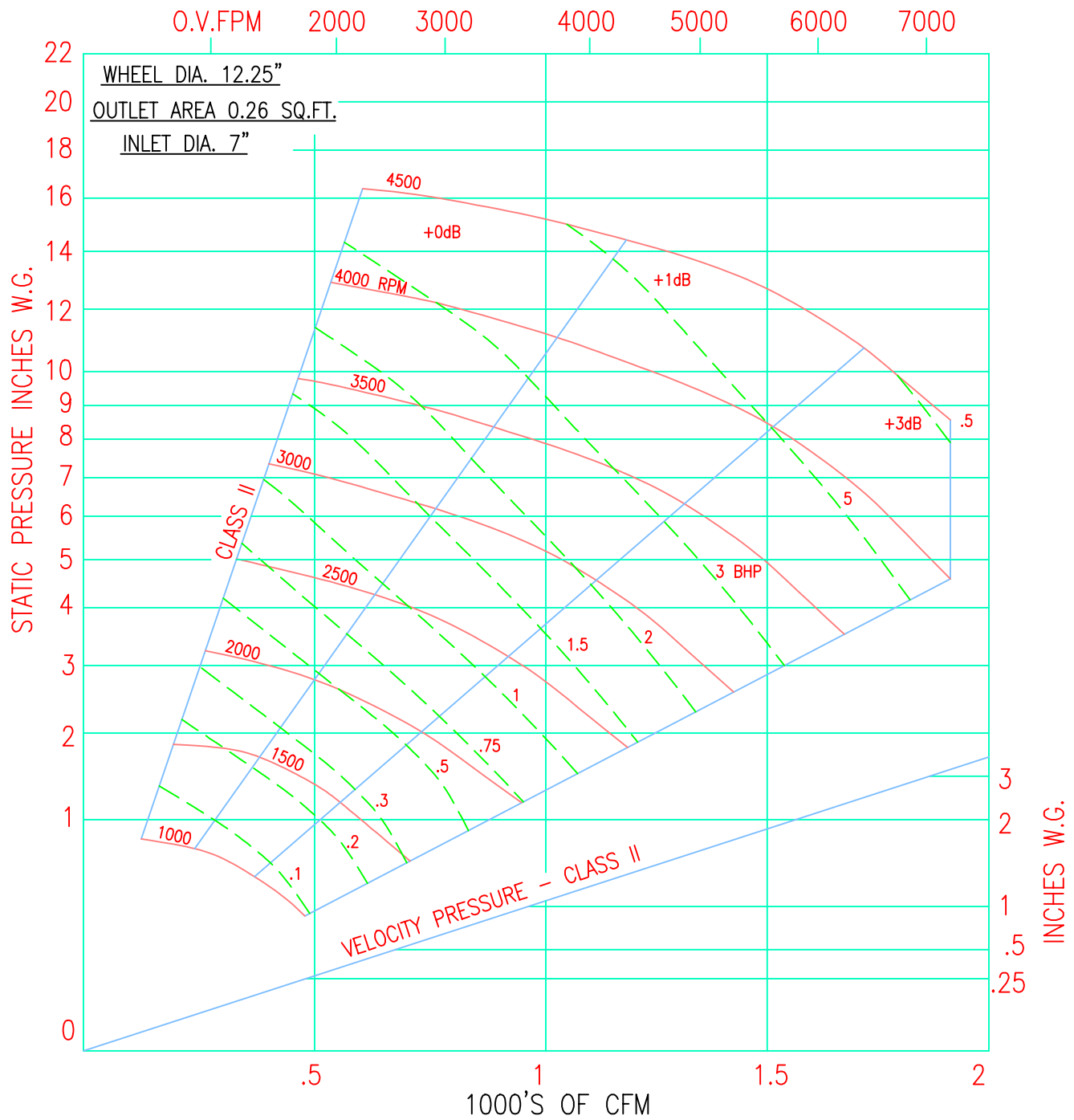
ACCESSORIES

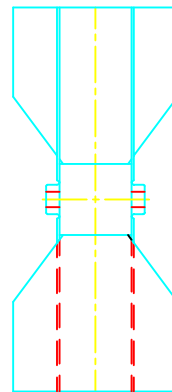
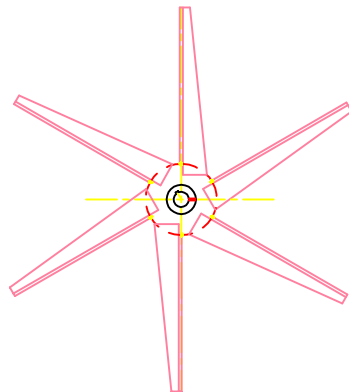
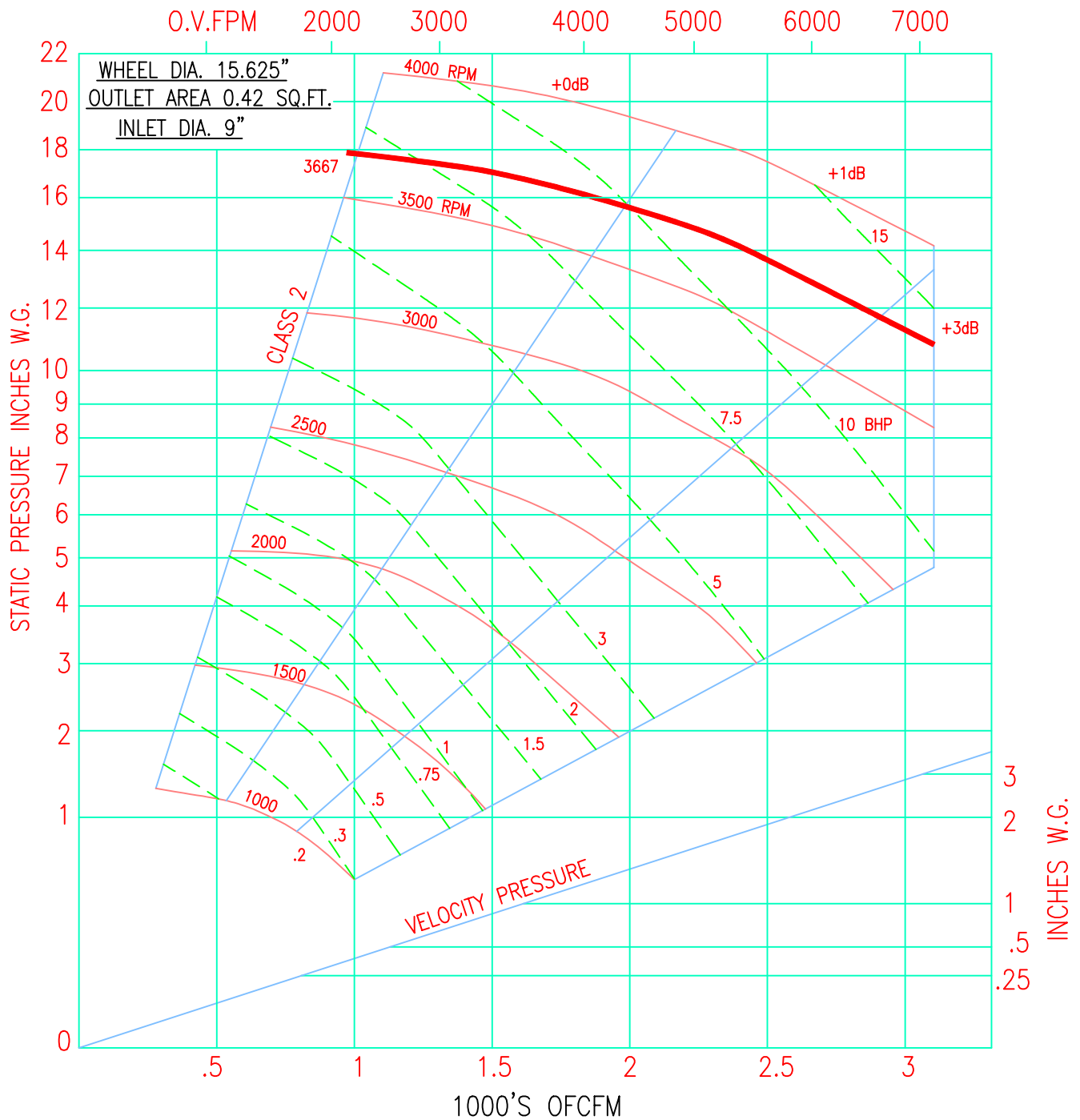
Accessories shall be provided as called for in the plans and specifications. Standard accessories include:

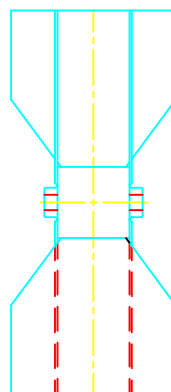
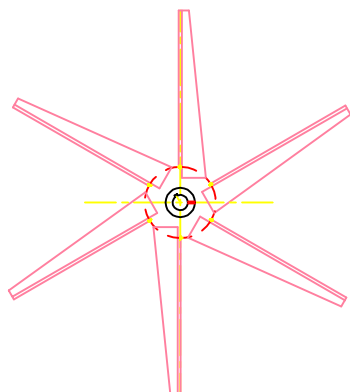
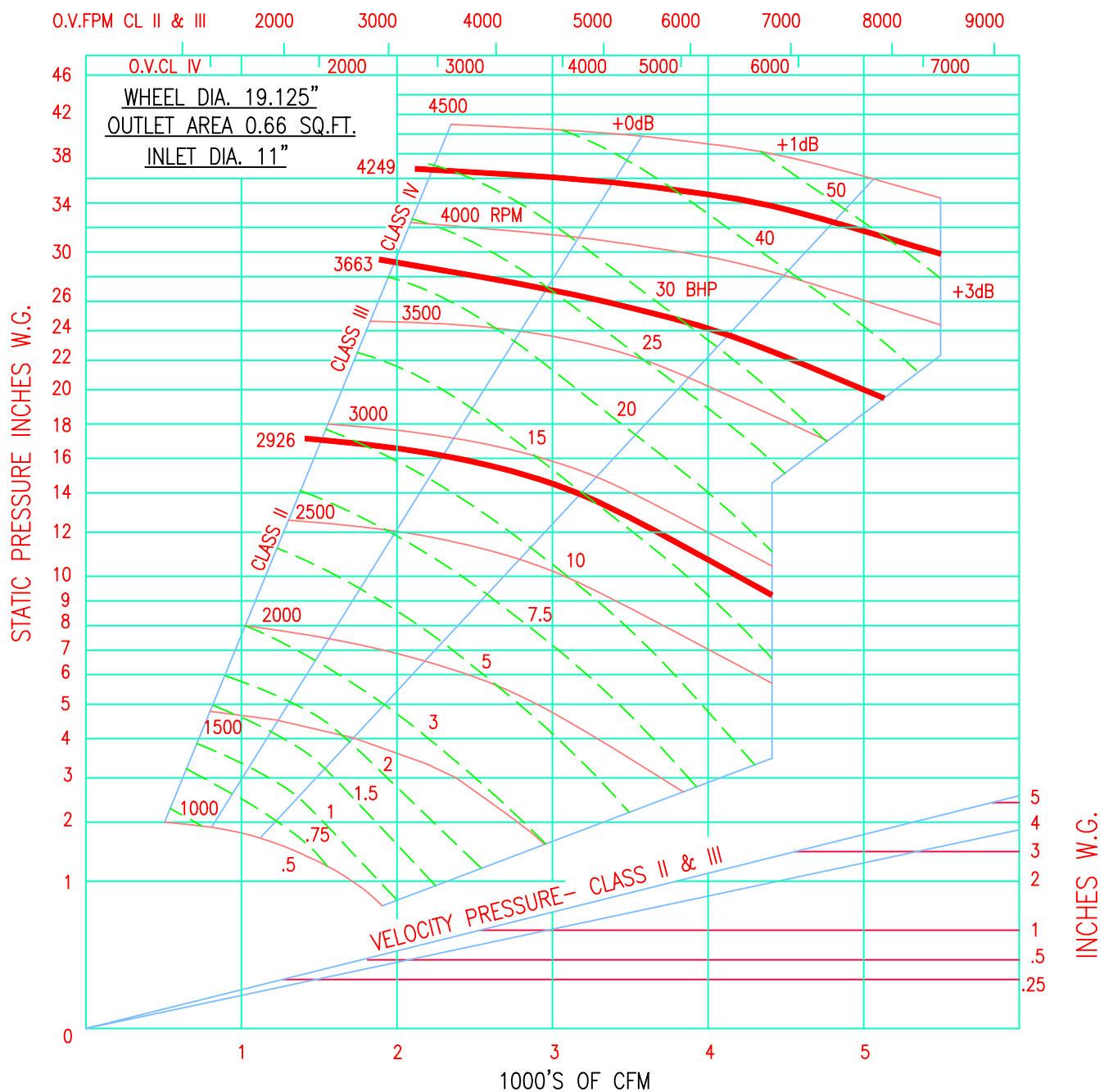
- Motor to be NEMA Design B 3/60/460-575V-1800 rpm, high efficiency TEFC 1.15 SF
- V-Belt Drives - Variable Speed/Constant Speed with min 1.5 SF
- Belt Guard or weather cover required
- Extended lubrication lines (nylon, copper or stainless steel) with fittings terminating in an accessible area.

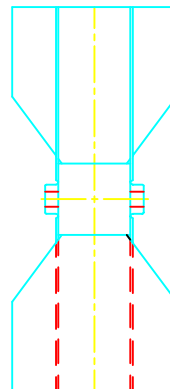
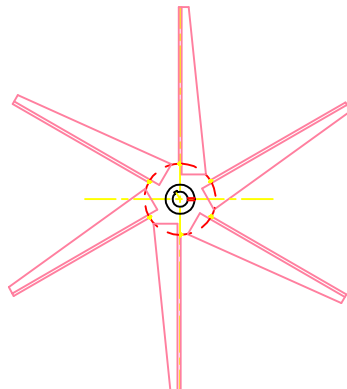
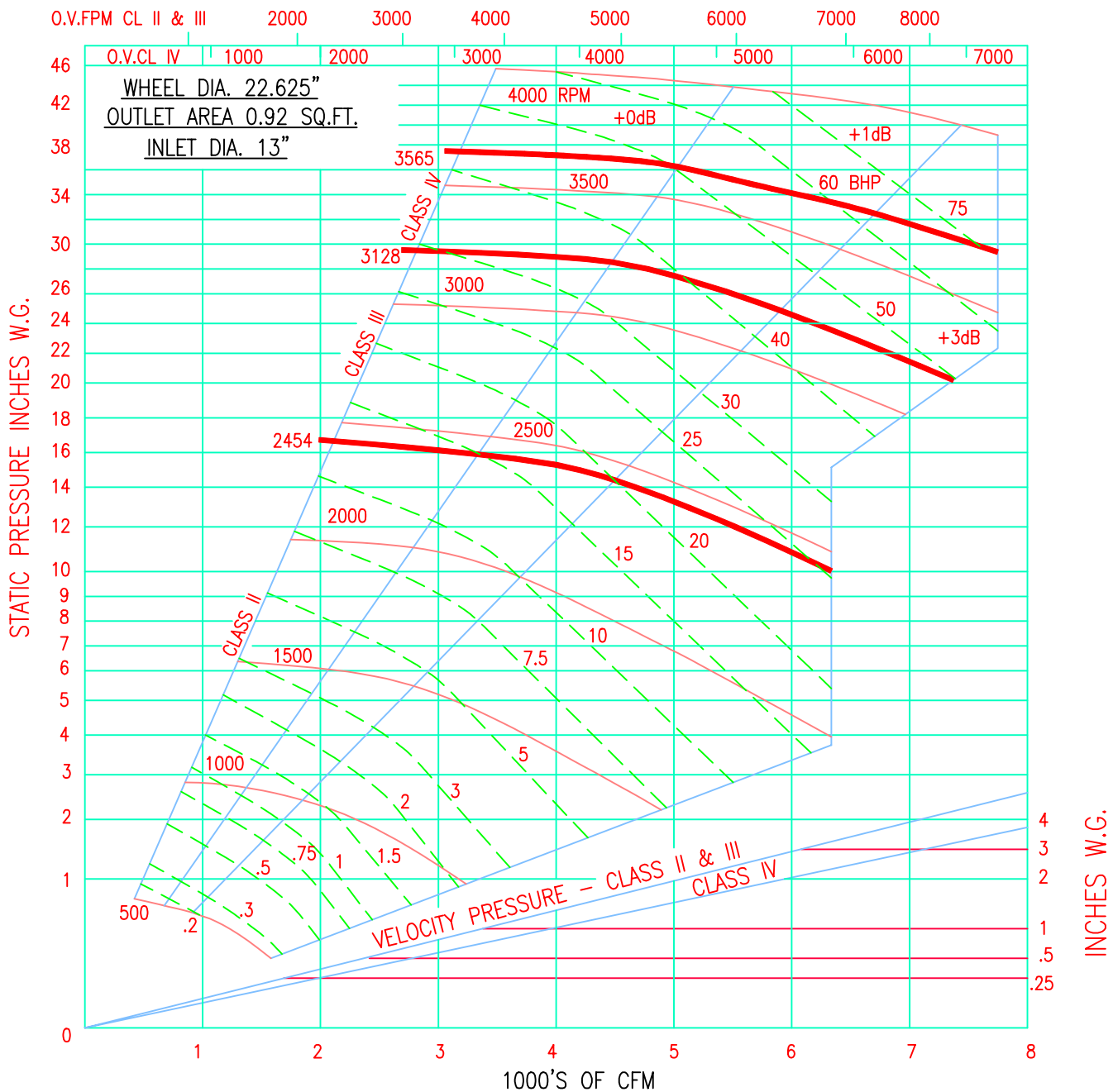
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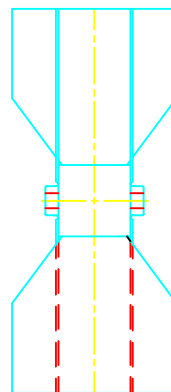
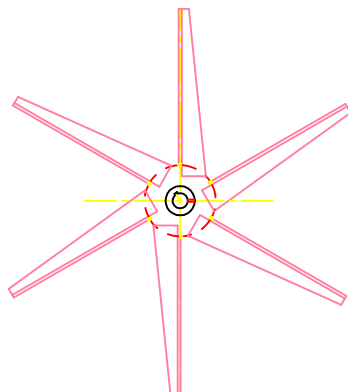
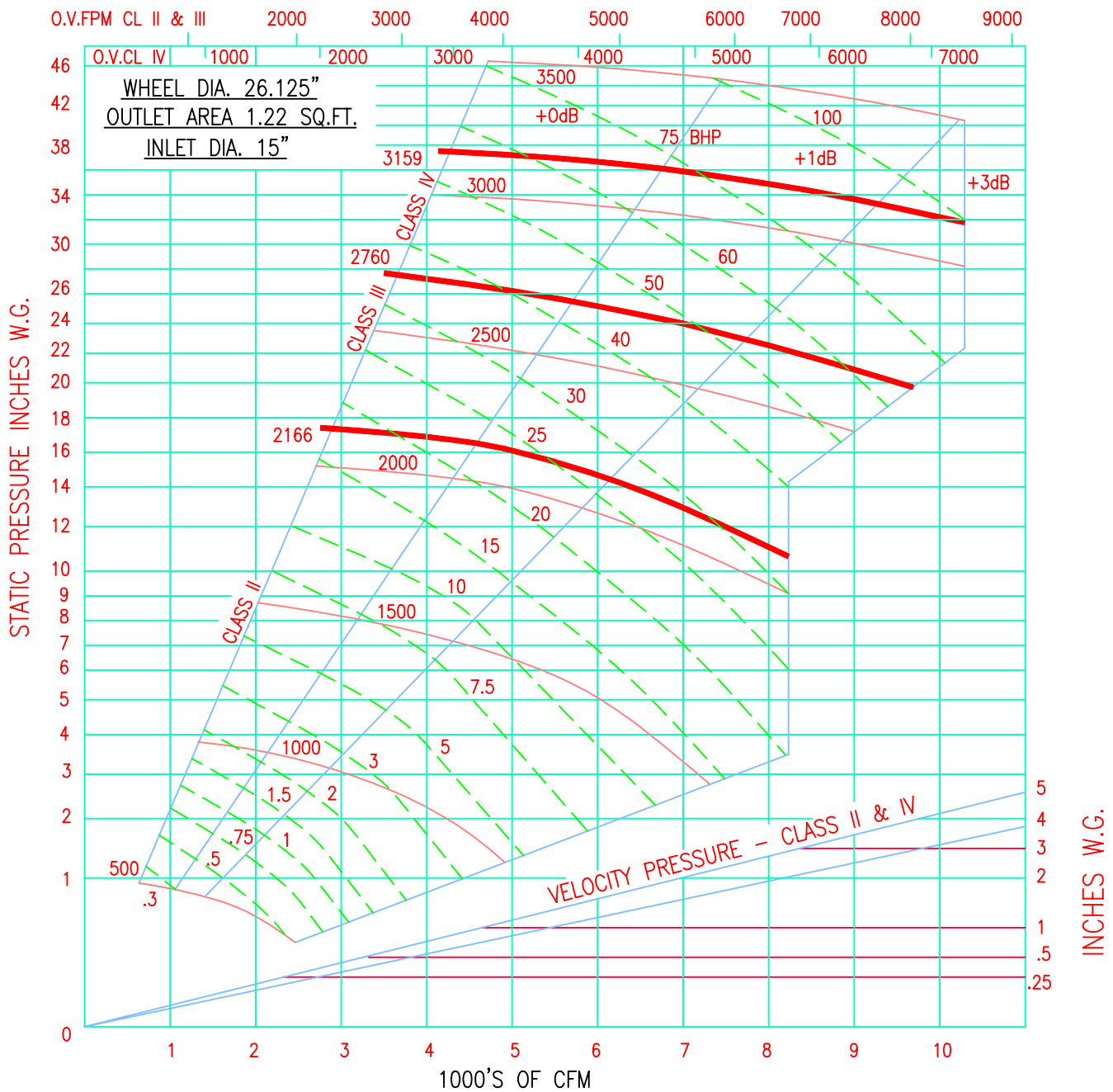
- Split pillow block bearings
- Access Door – bolted/quick opening or plug type with raised door
- Companion Flange (angle companion flange bolted to the fan inlet or outlet flange)
- Inlet or Outlet screen heavy gauge wire on 2" centres
- Above 300°F, Shaft cooling wheel required
- Above 500°F, high temperature aluminum paint required
- Vibration Isolation - Spring - Rubber-In-Shear
- Variable inlet vanes
- Spark Resistant Construction –
 - AMCA "A" All parts of the fan in contact with the air stream non-ferrous material
 - AMCA "B" Non-ferrous wheel and aluminum rubbing ring where shaft passes through Housing with shaft seal
 - AMCA "C" Aluminum inlet cone and Aluminum rubbing ring

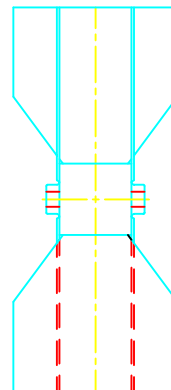
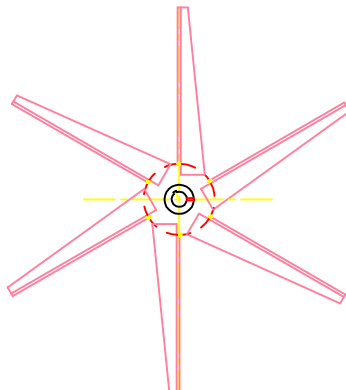
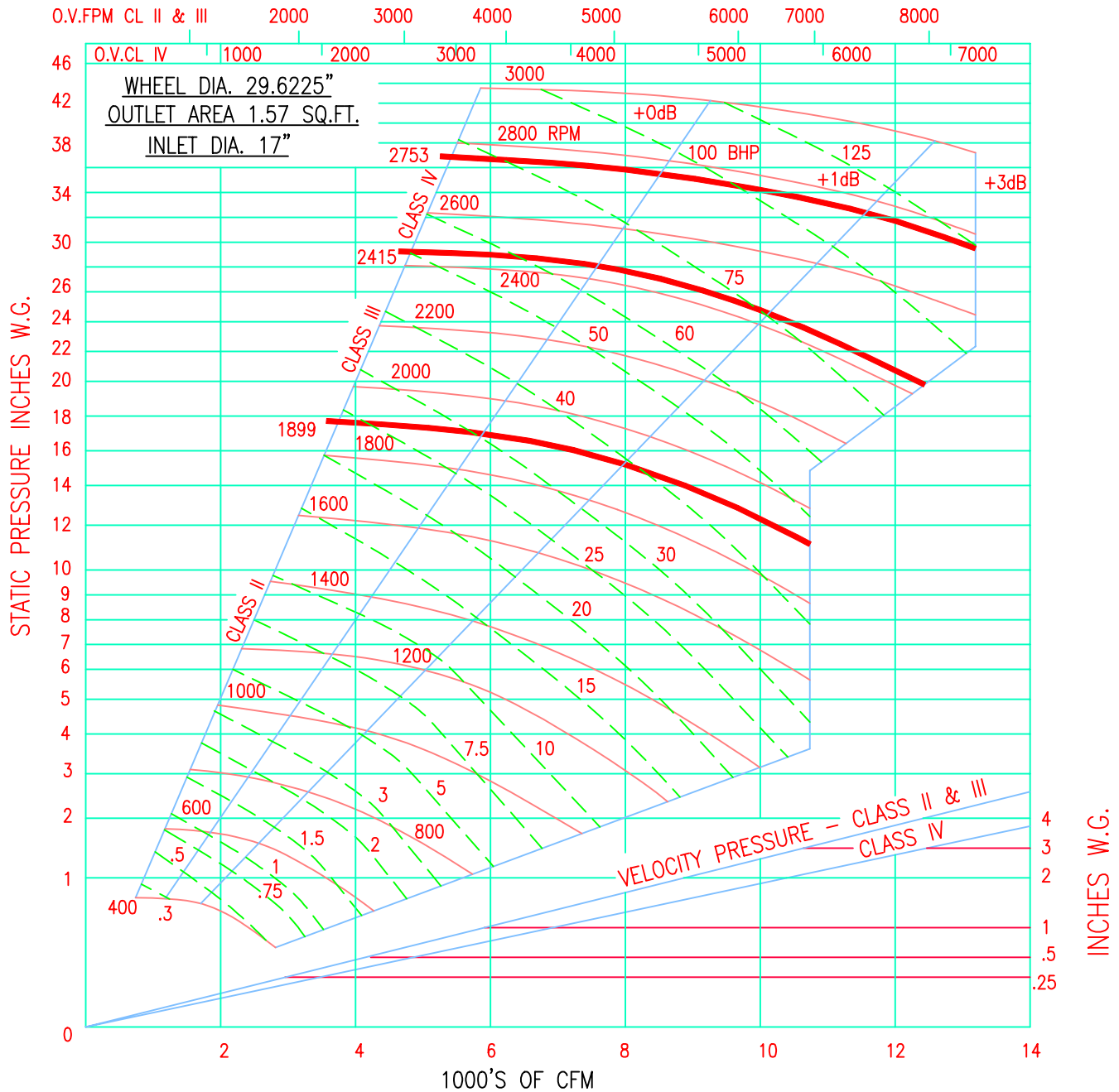


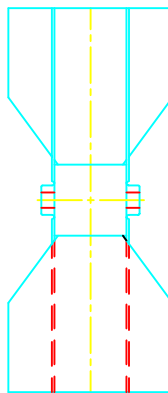
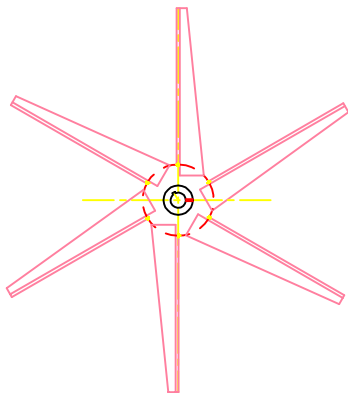
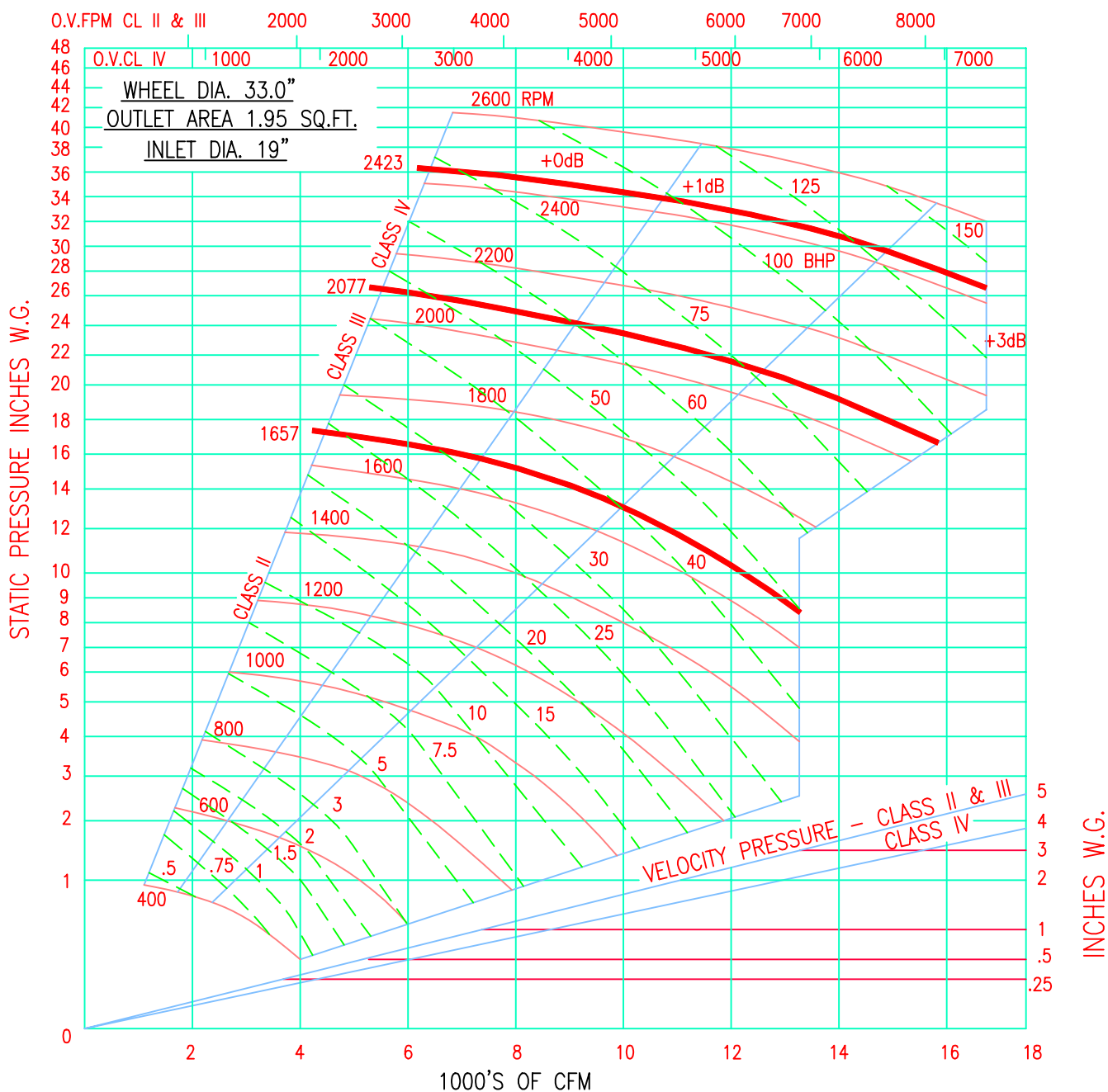


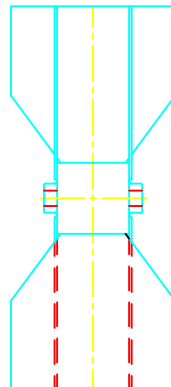
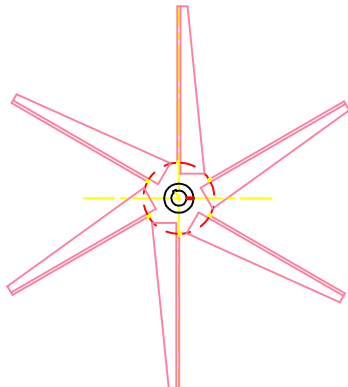
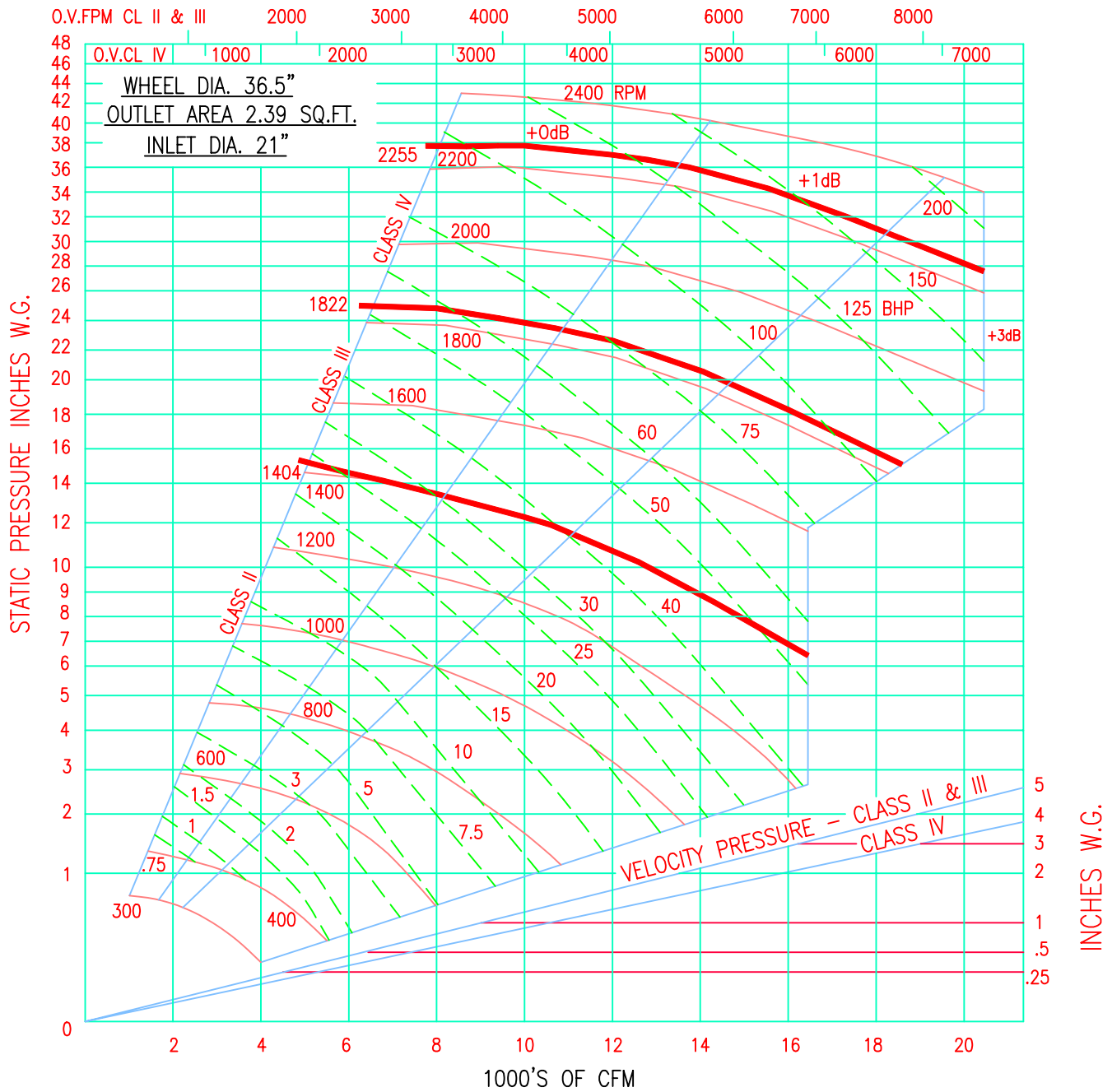


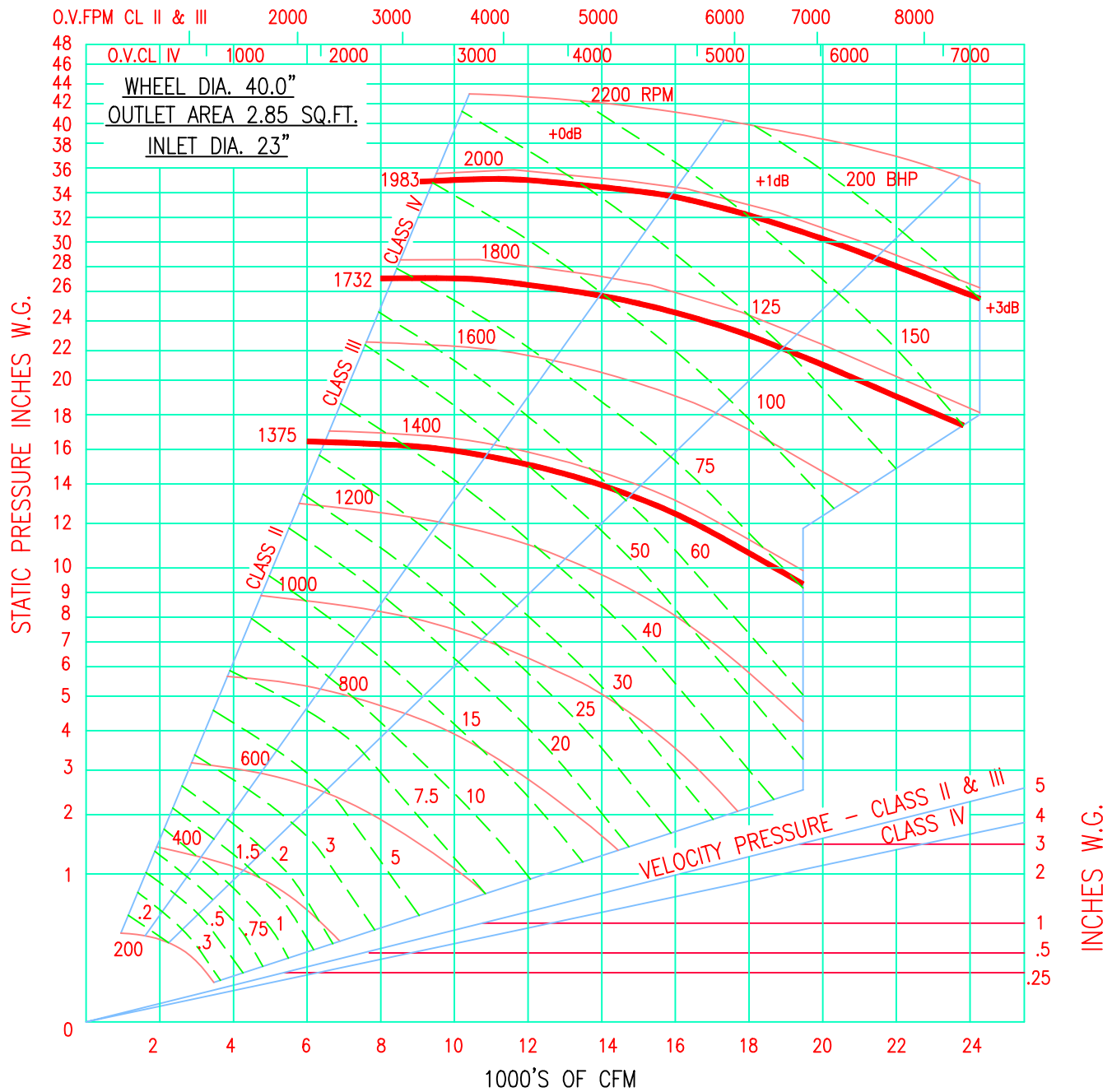


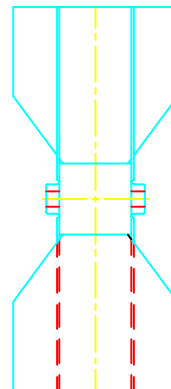
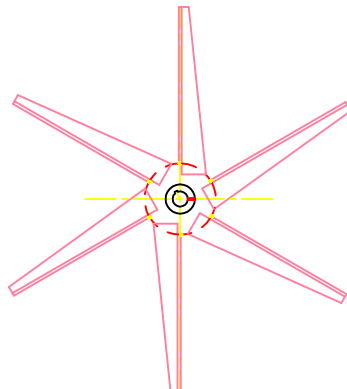
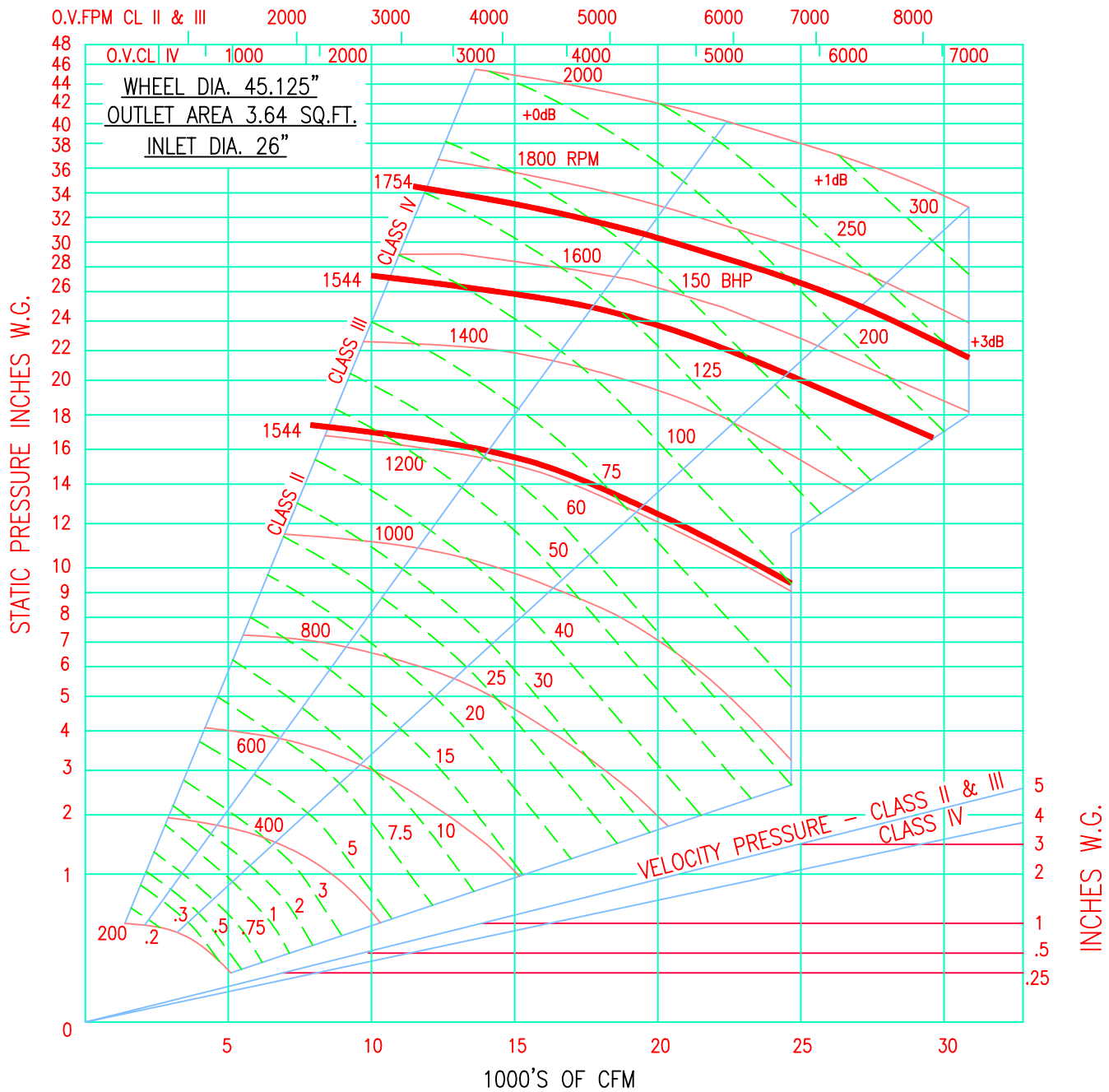


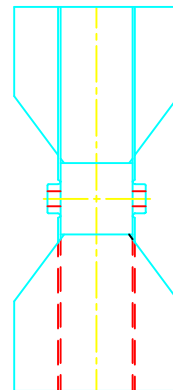
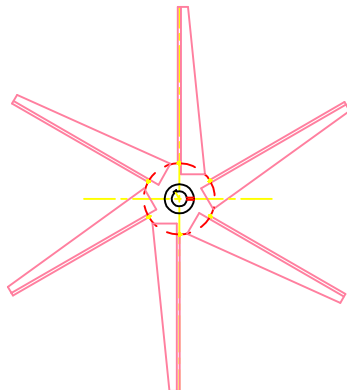
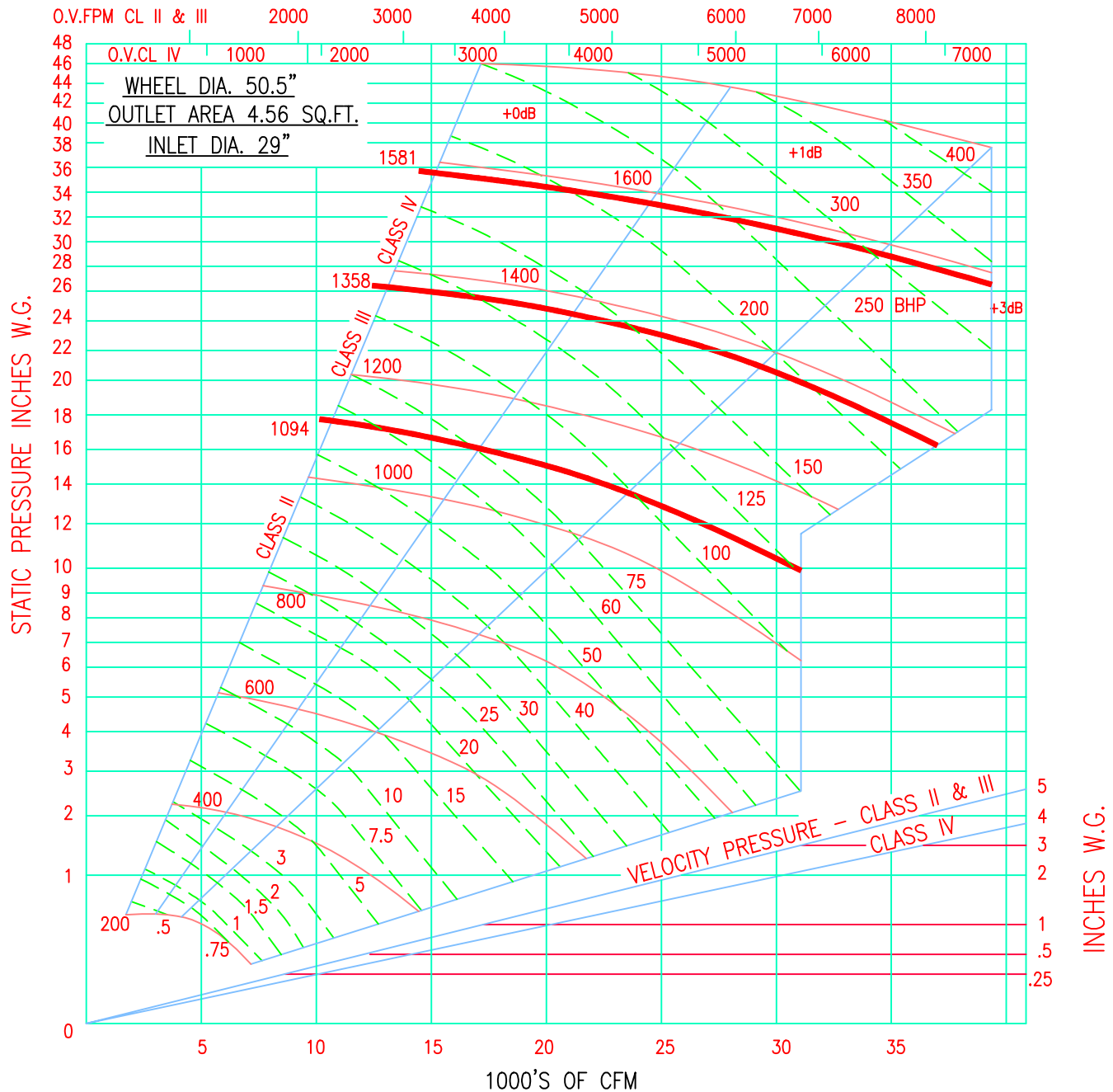


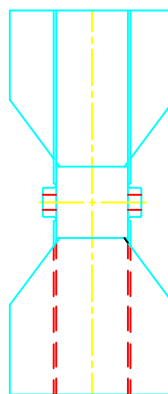
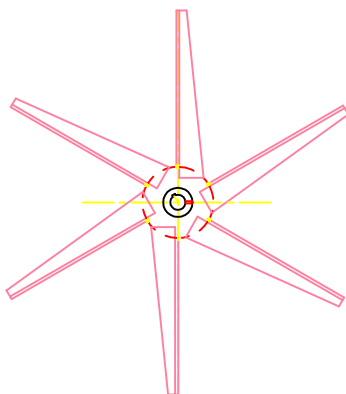
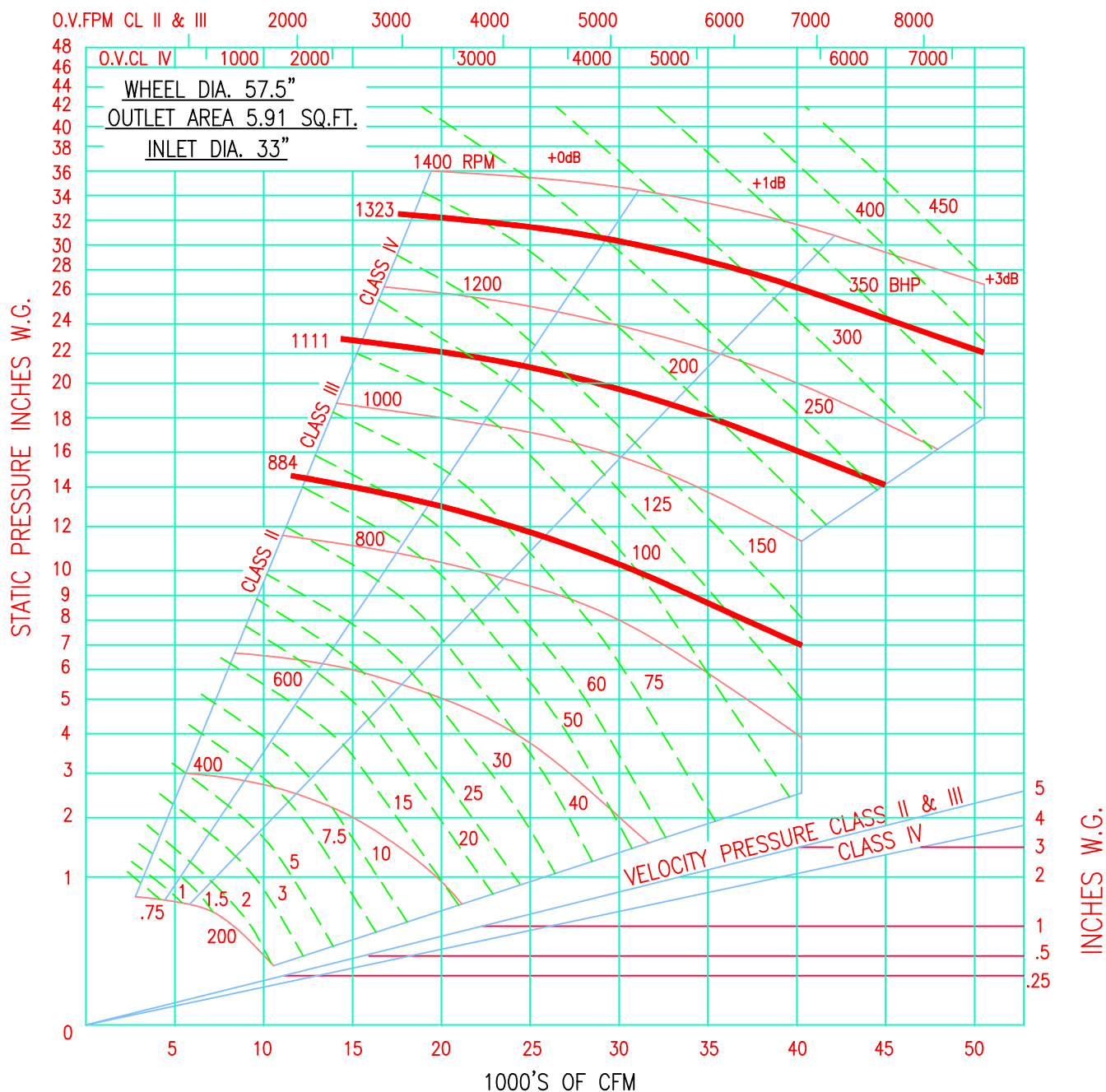


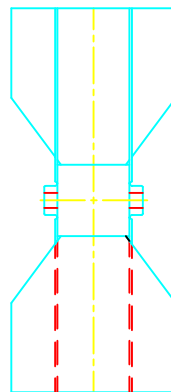
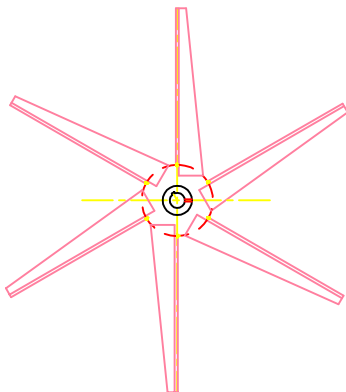
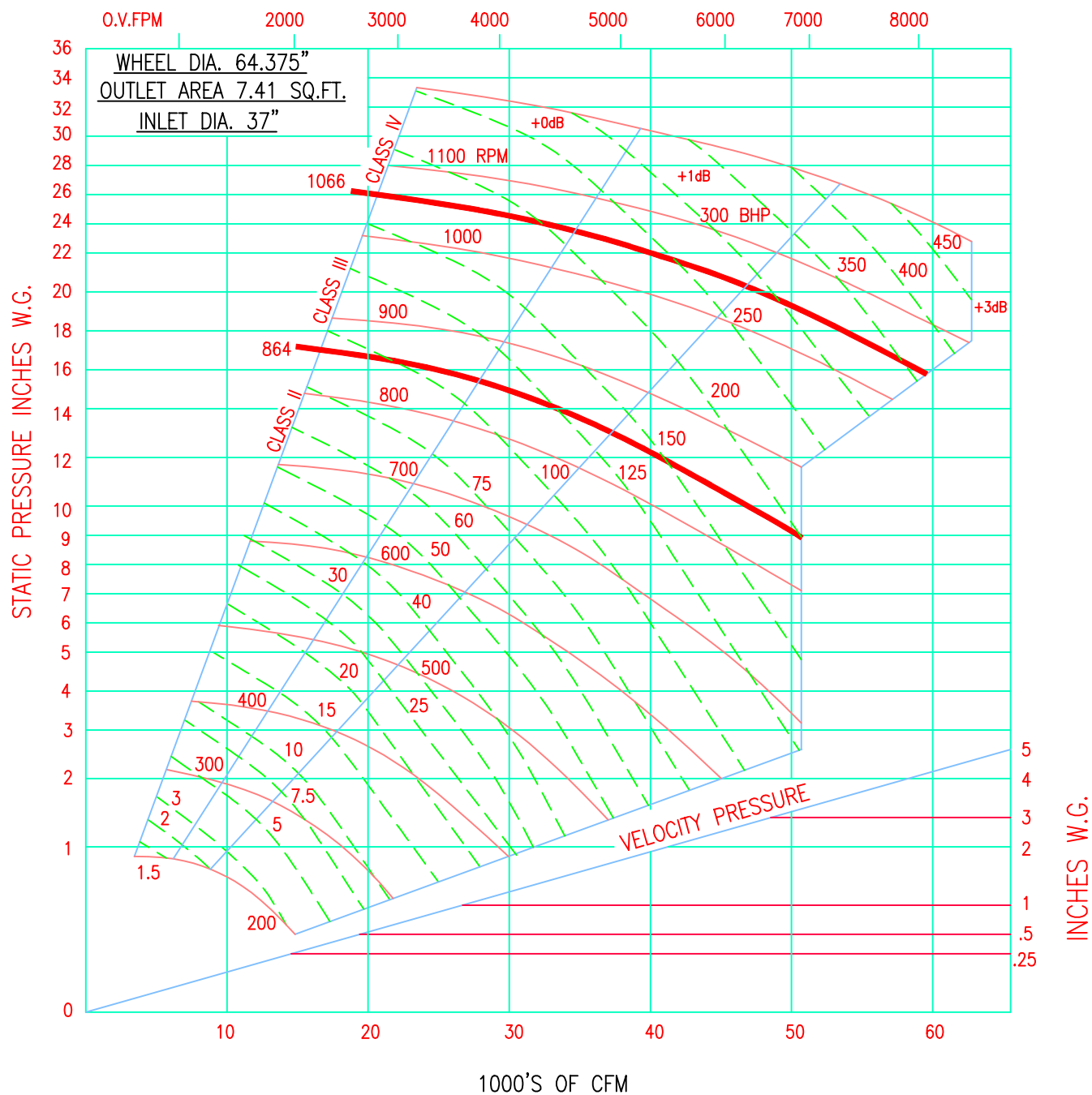


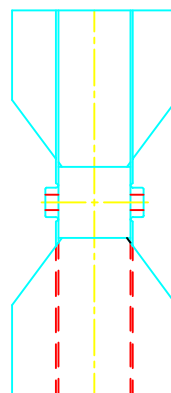
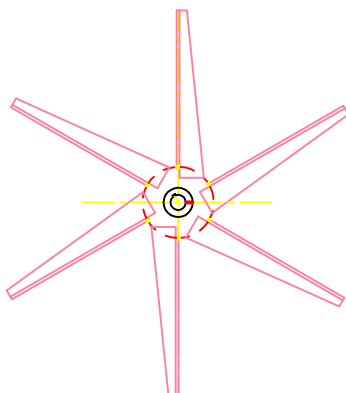
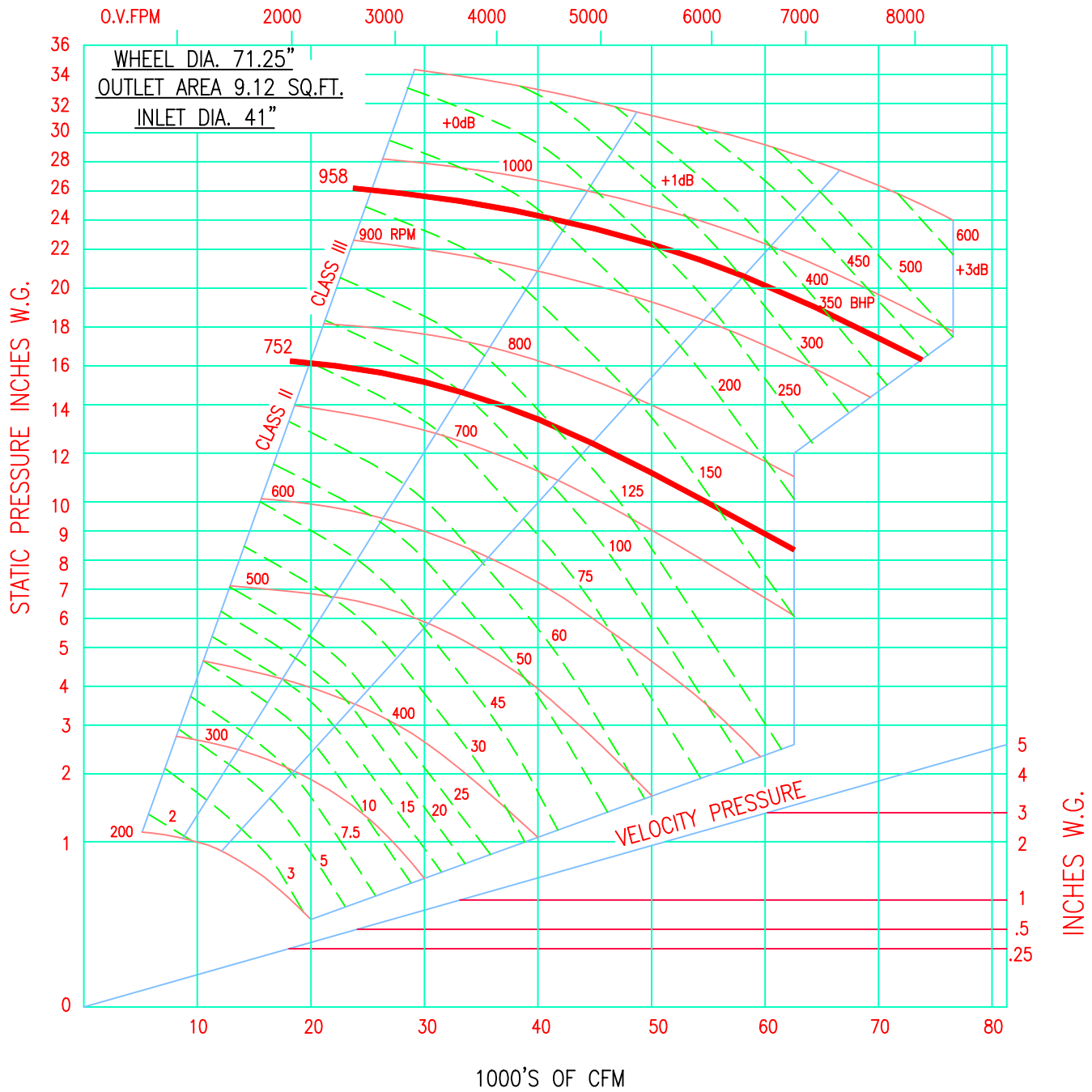


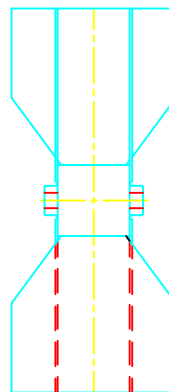
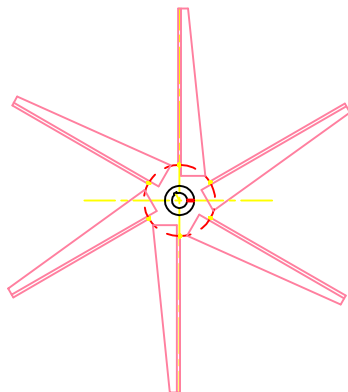
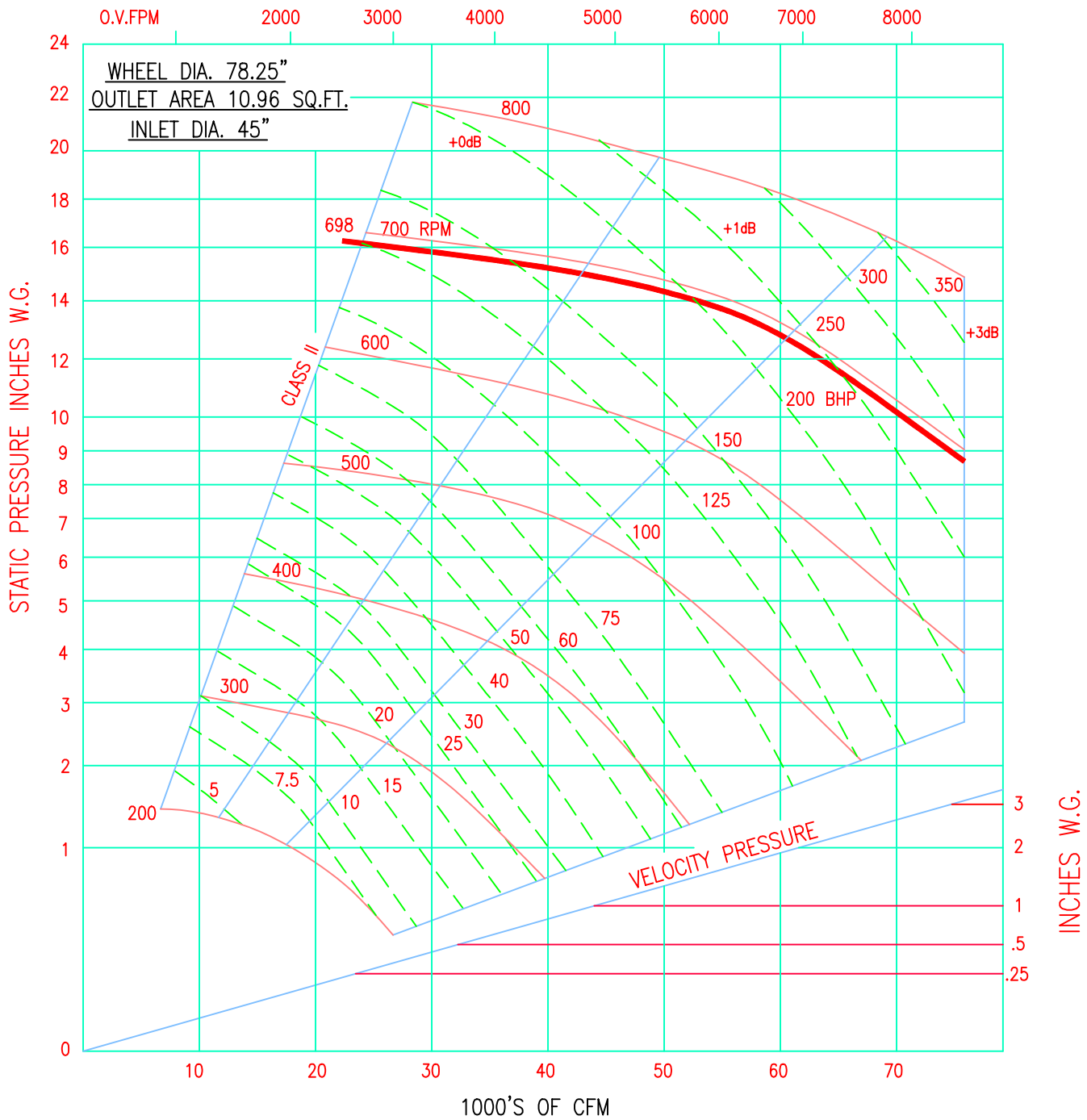


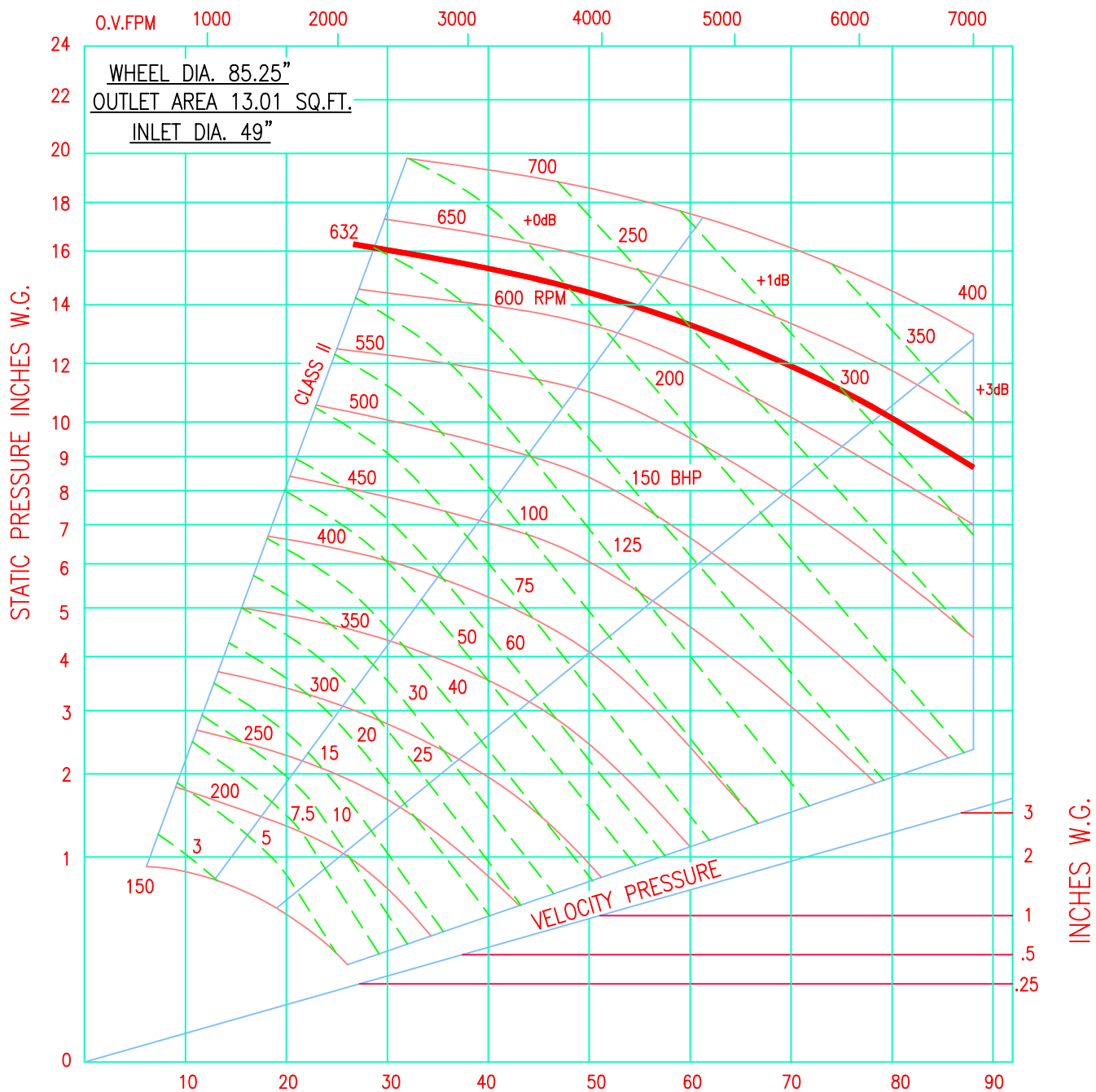




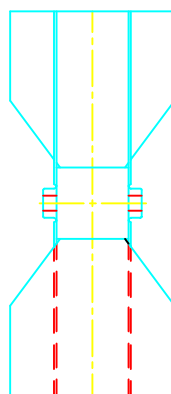
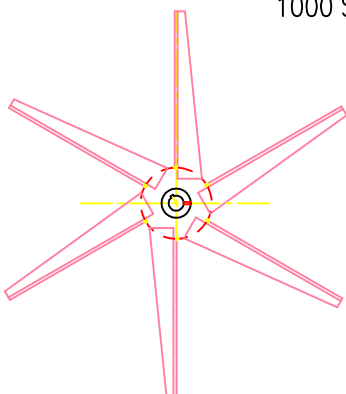


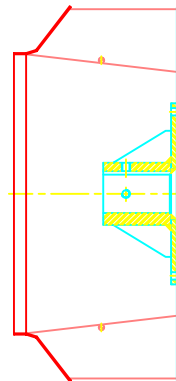
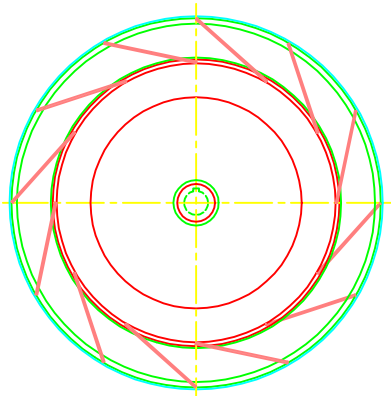
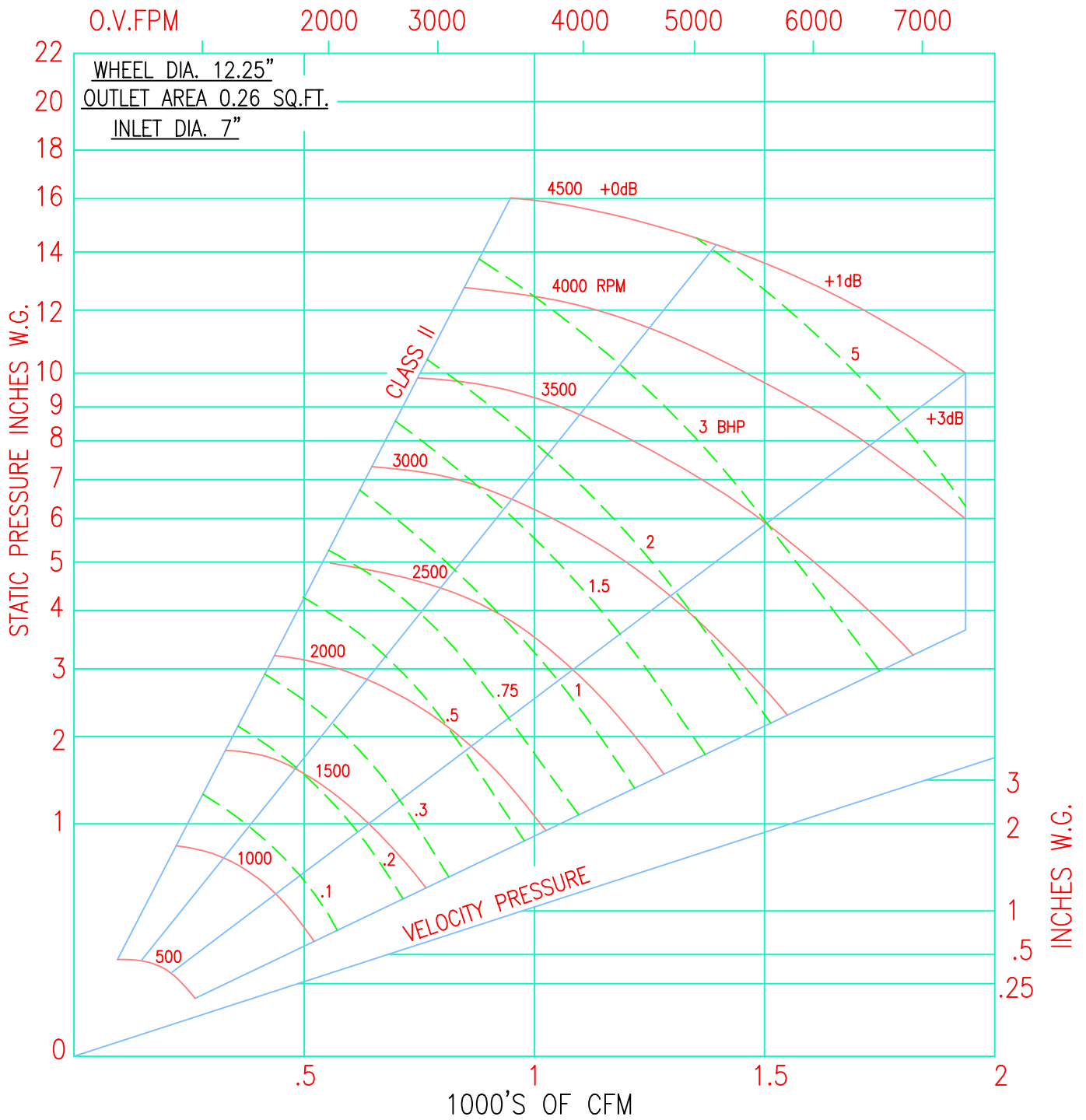


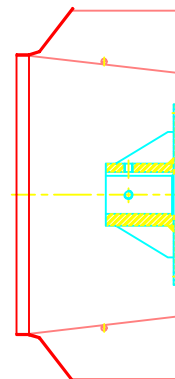
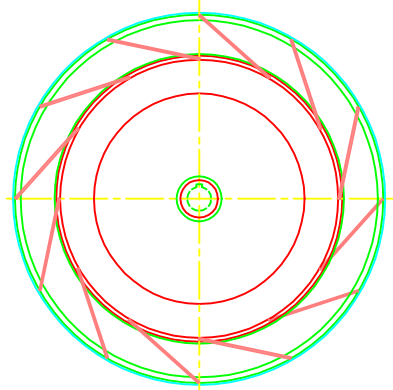
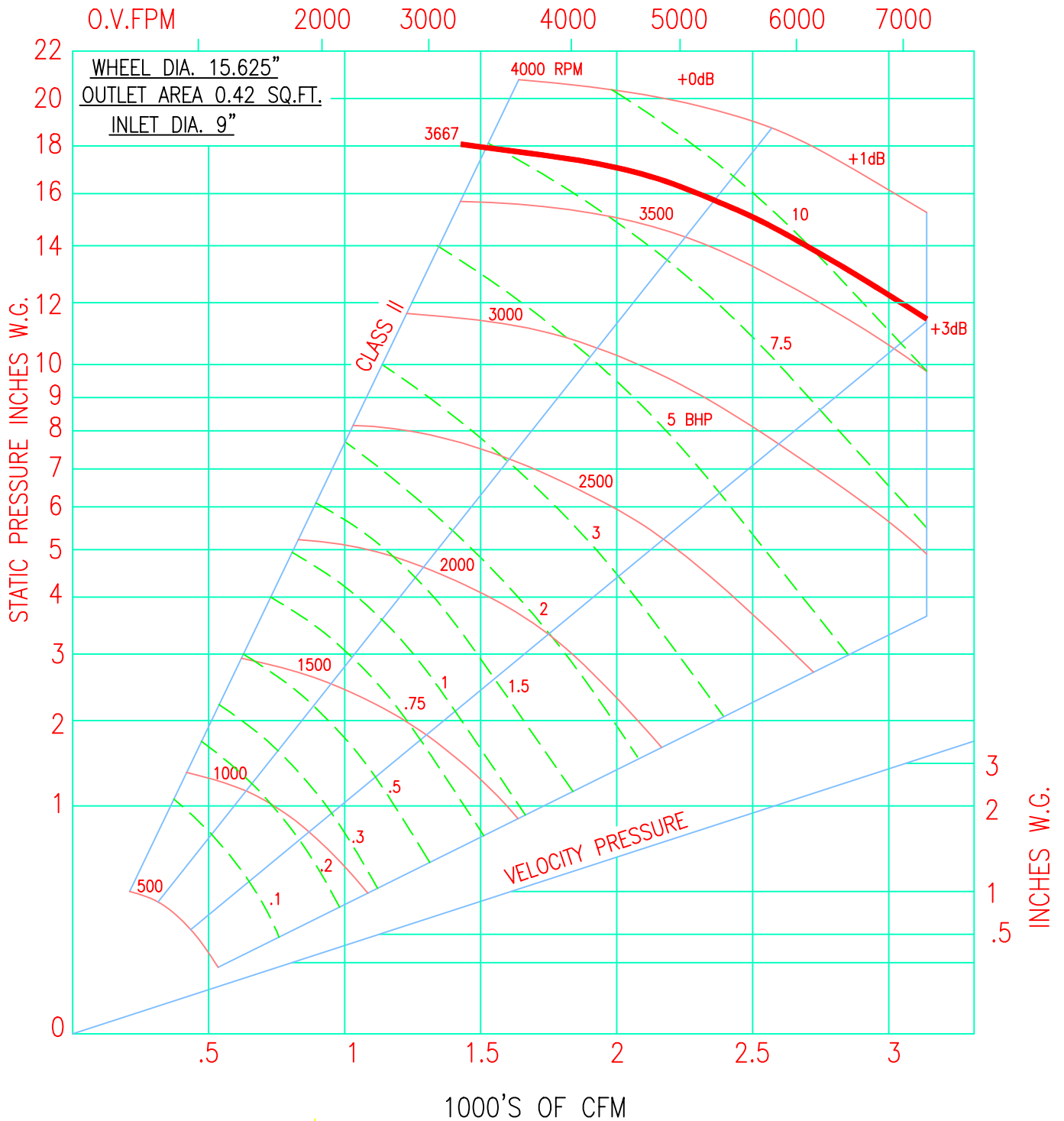


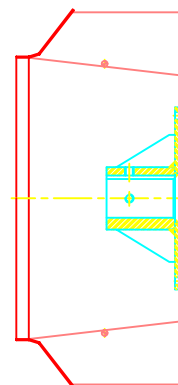
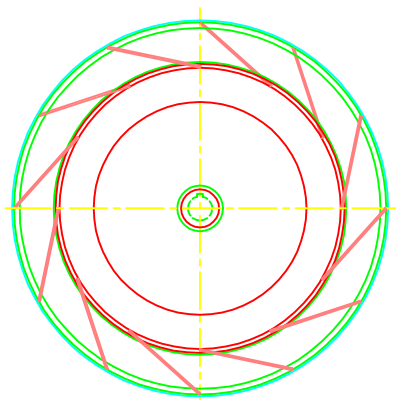
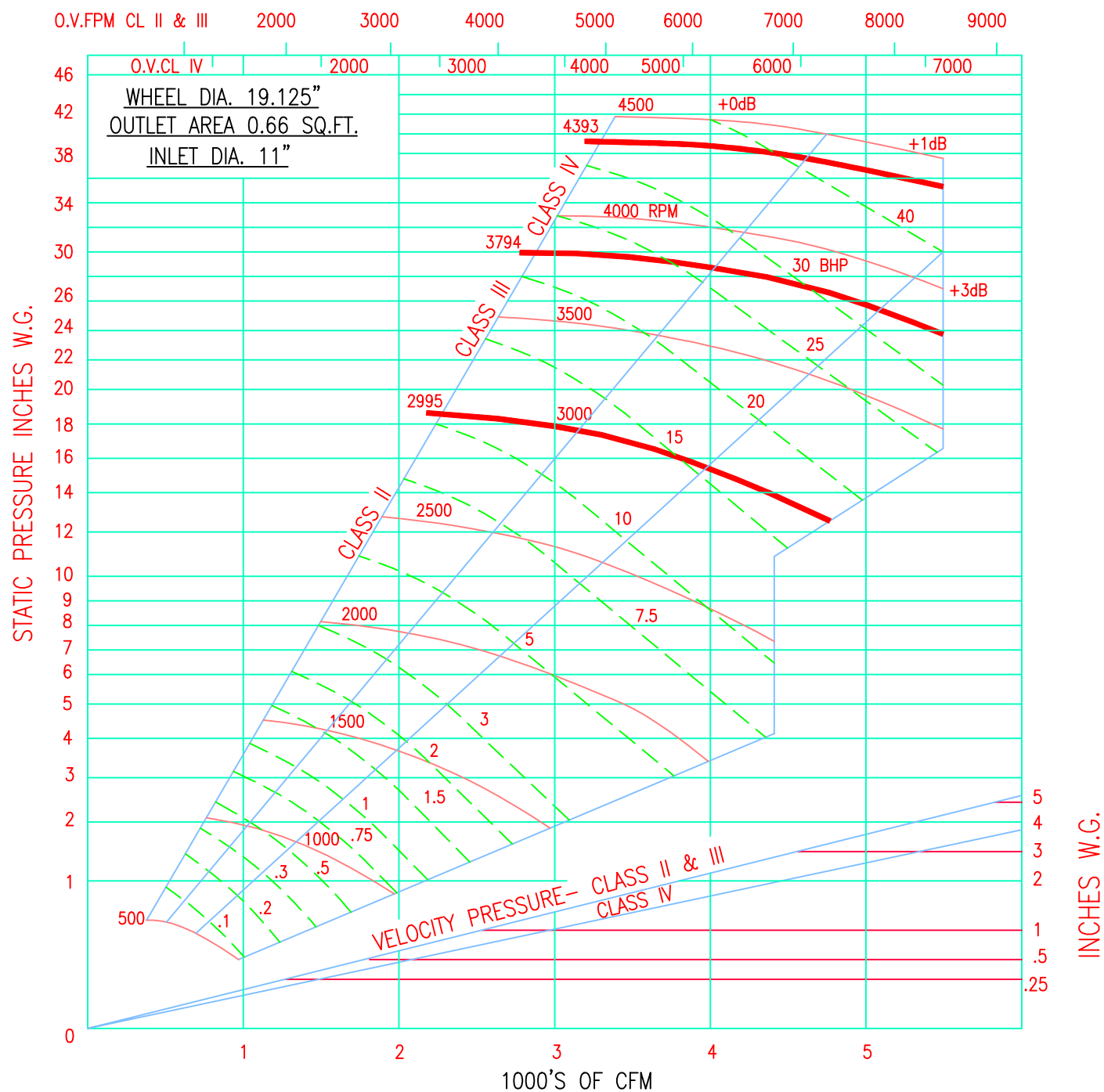


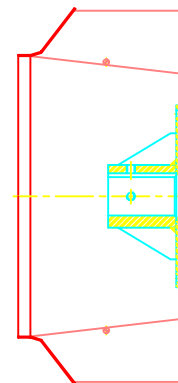
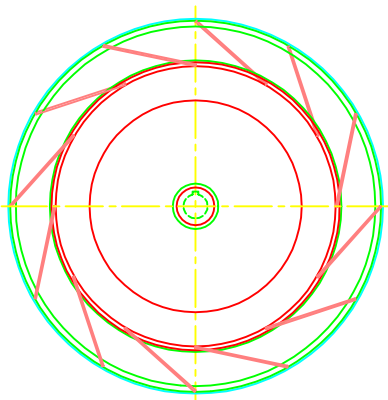
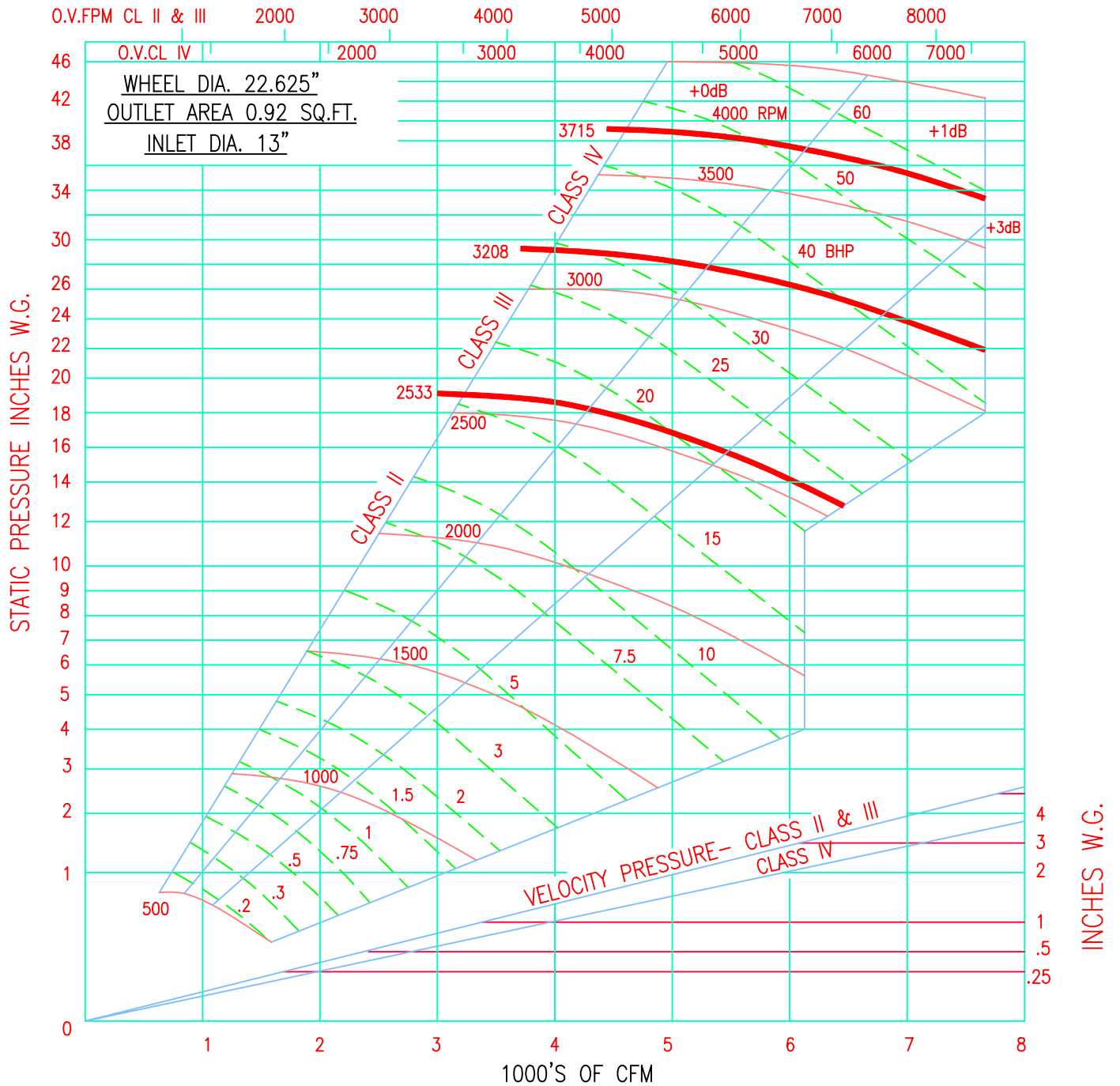
1000'S OF CFM

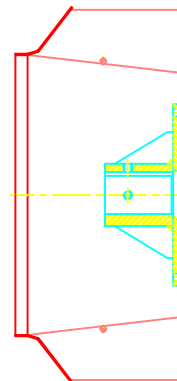
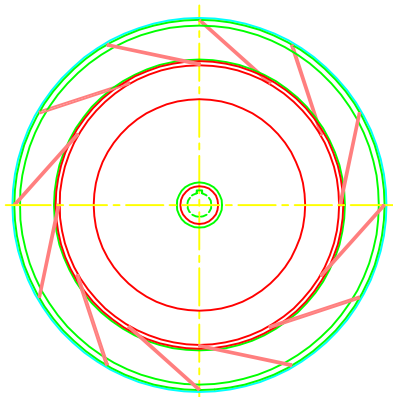
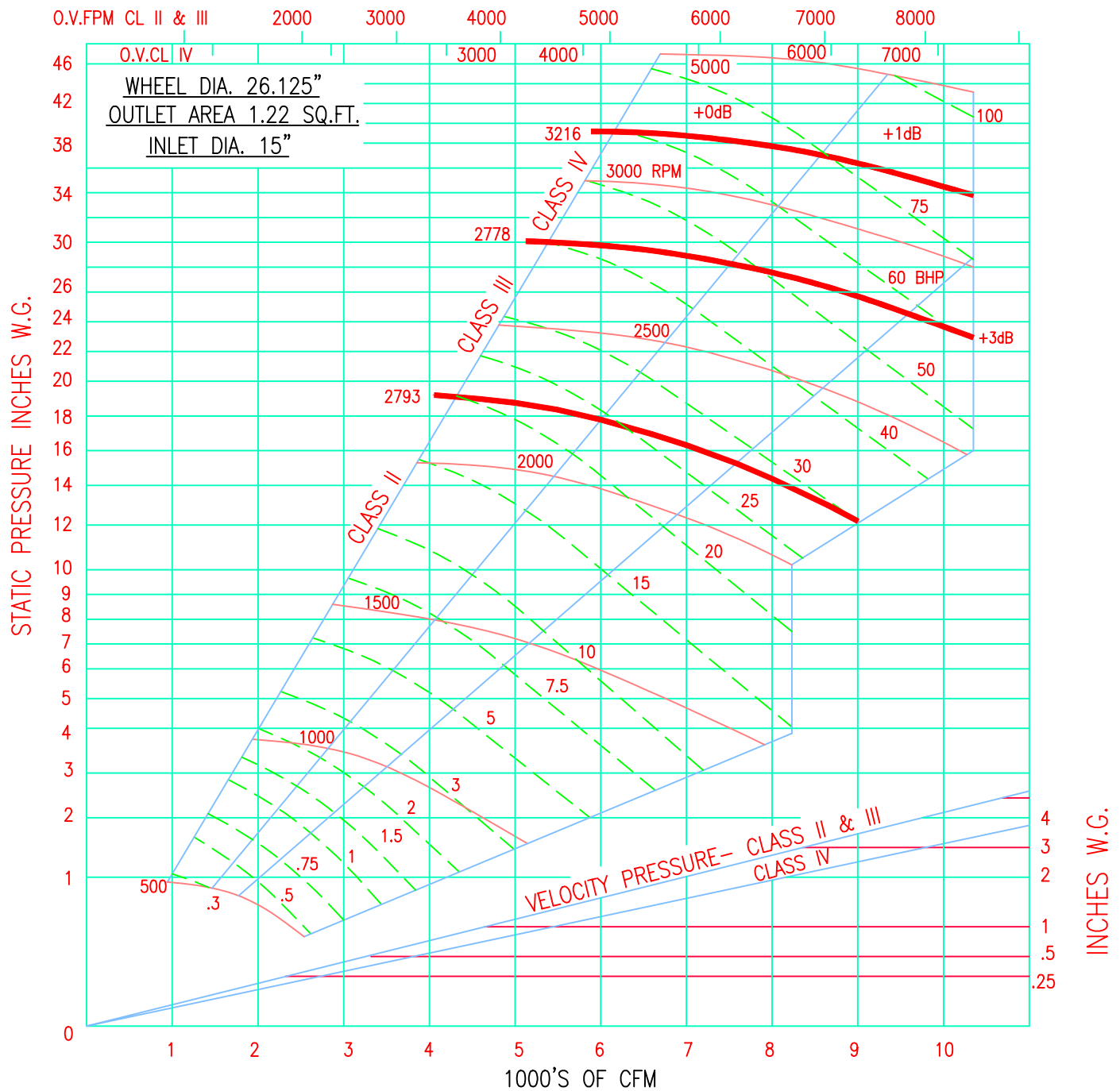


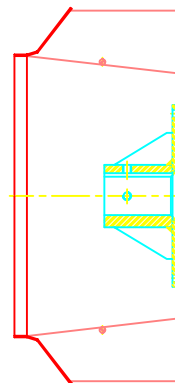
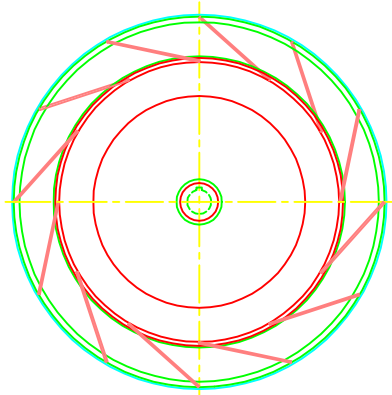
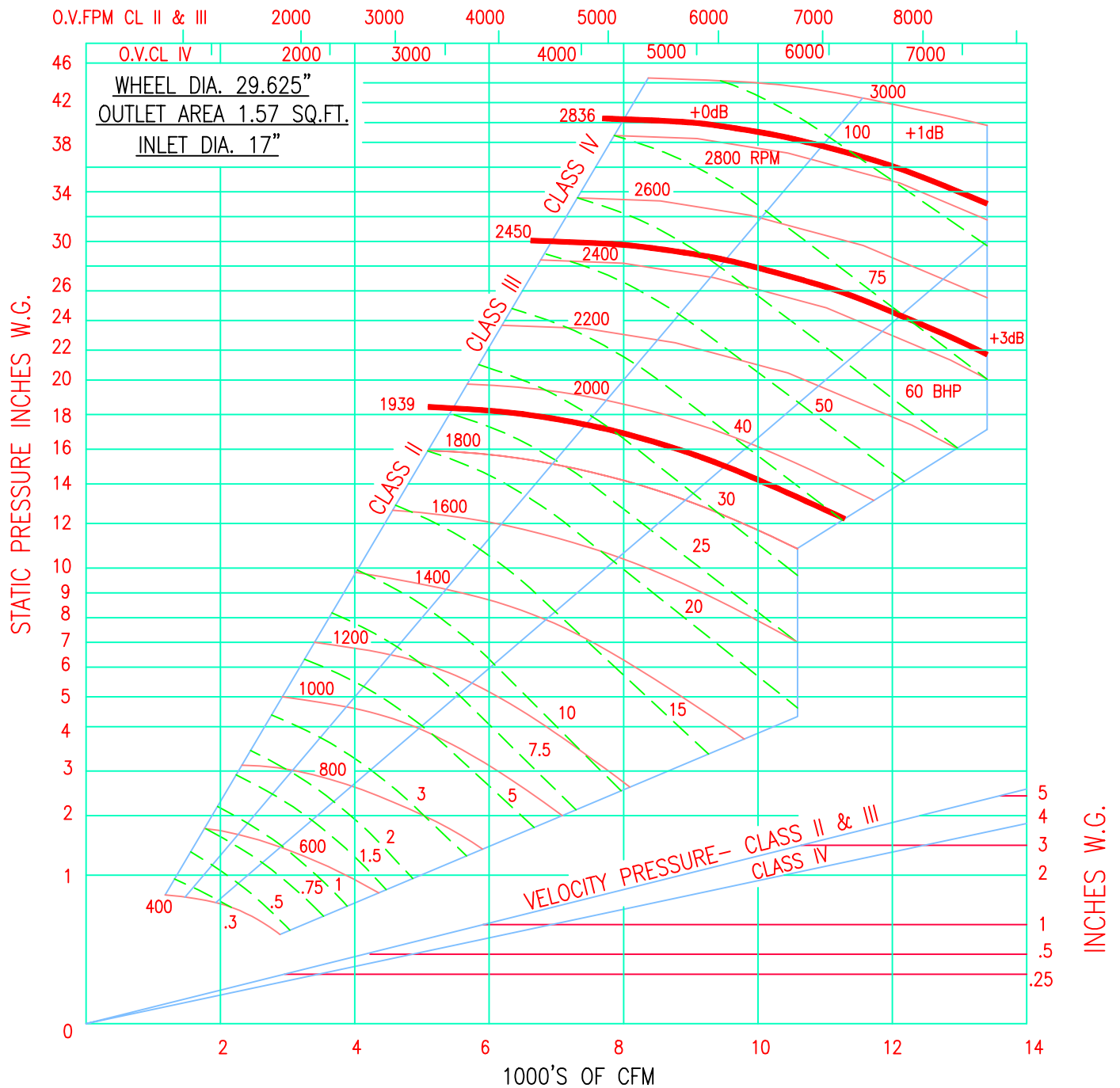


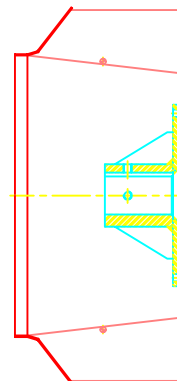
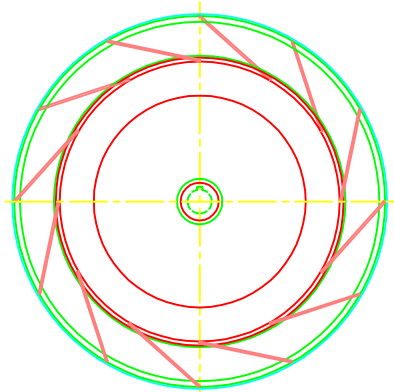
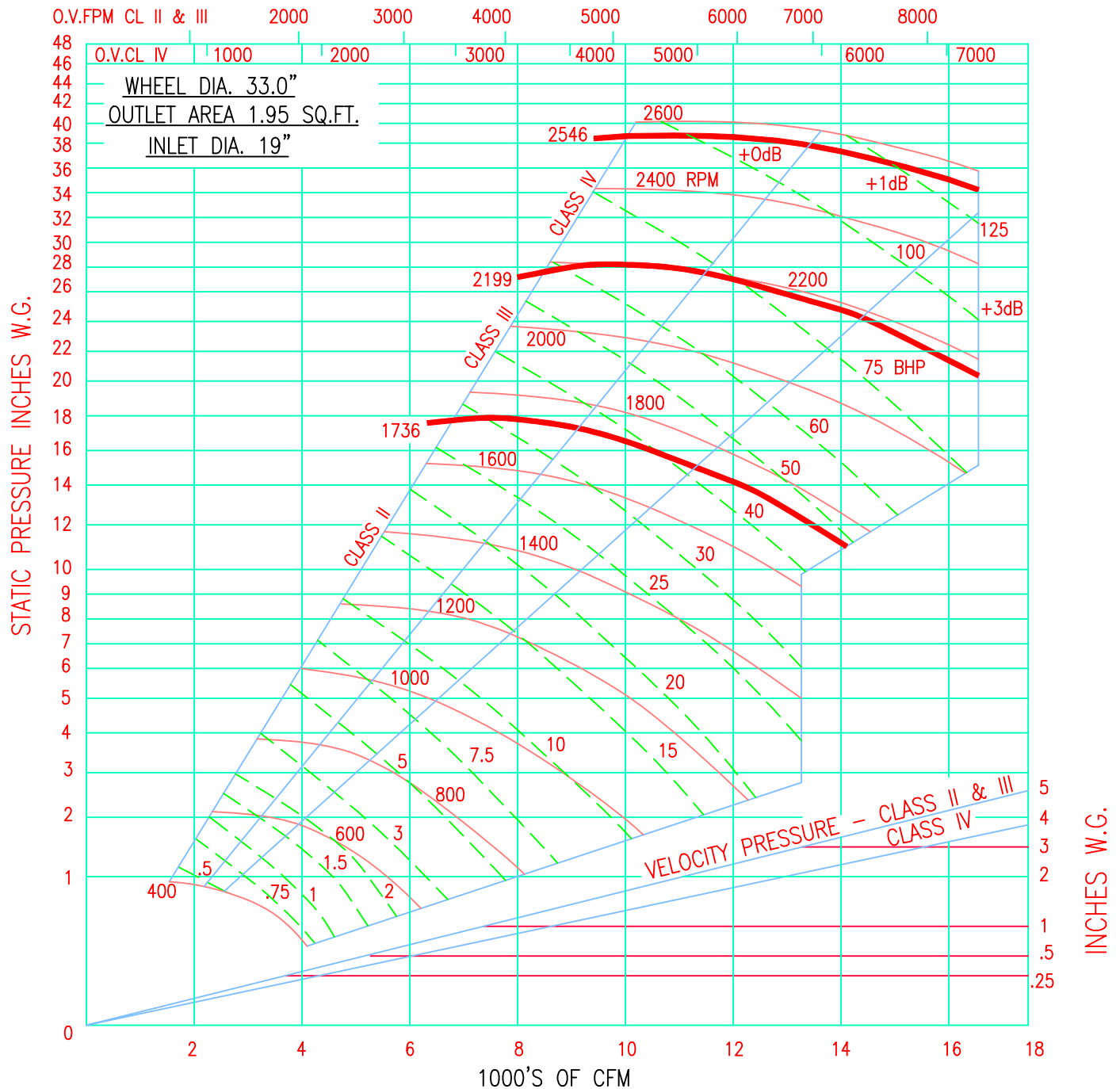


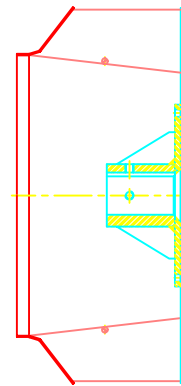
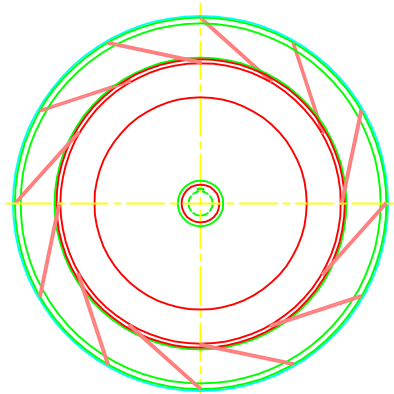
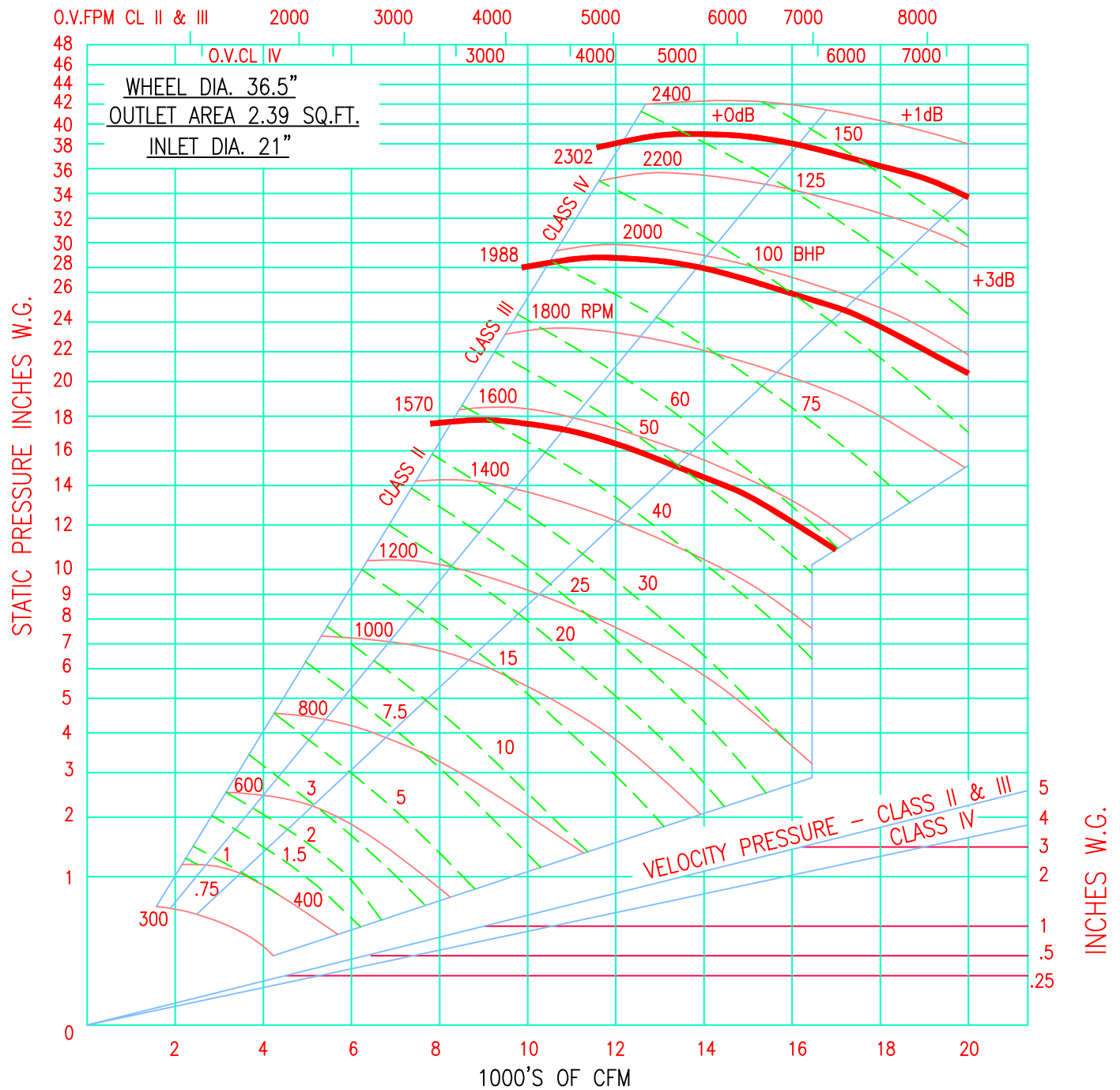


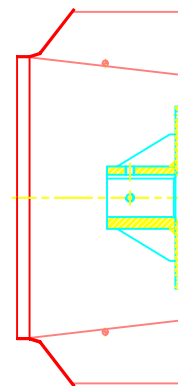
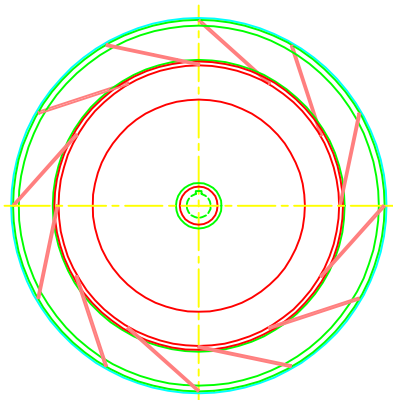
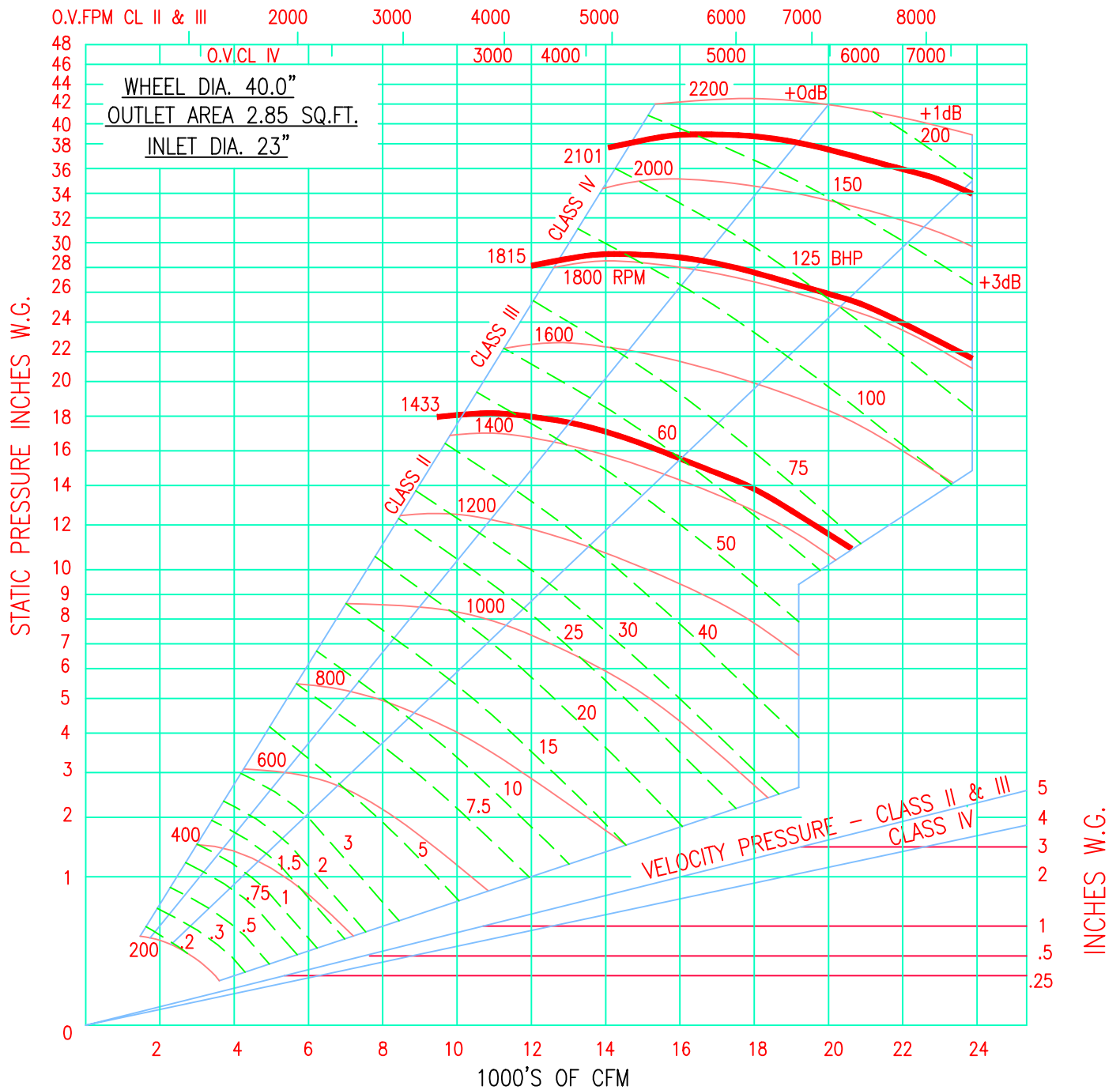


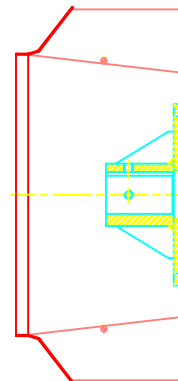
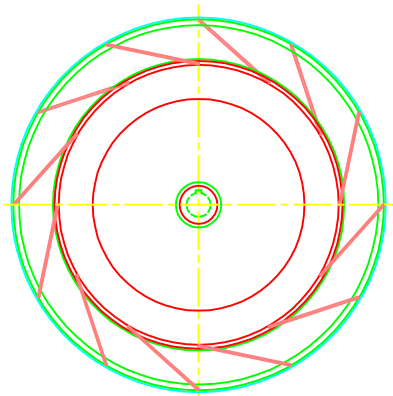
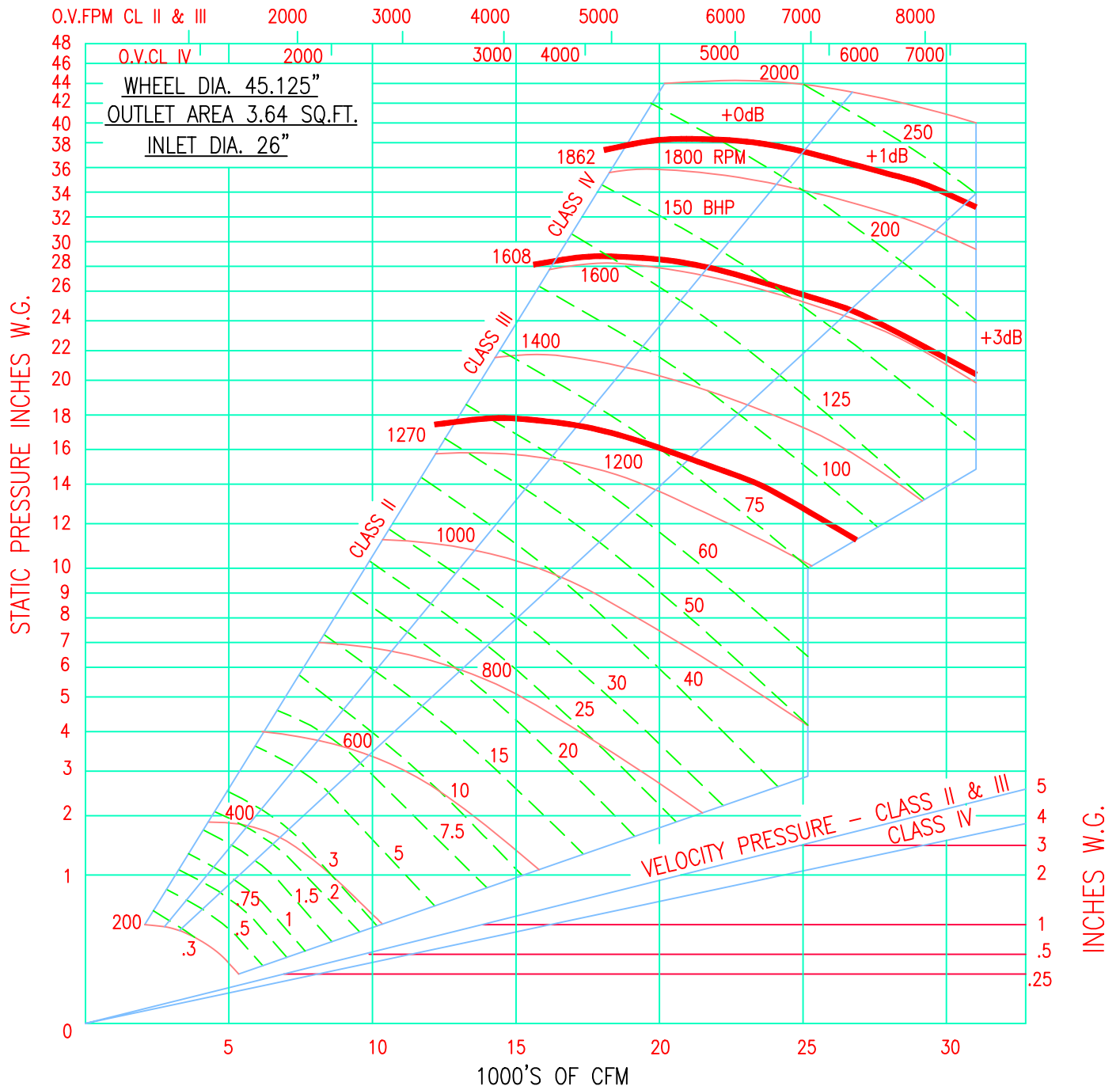


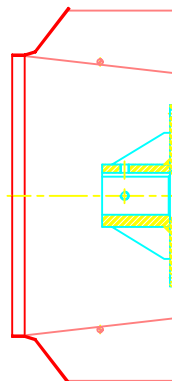
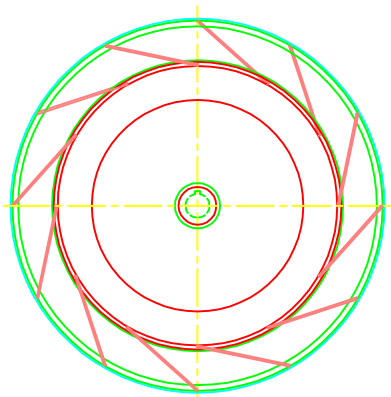
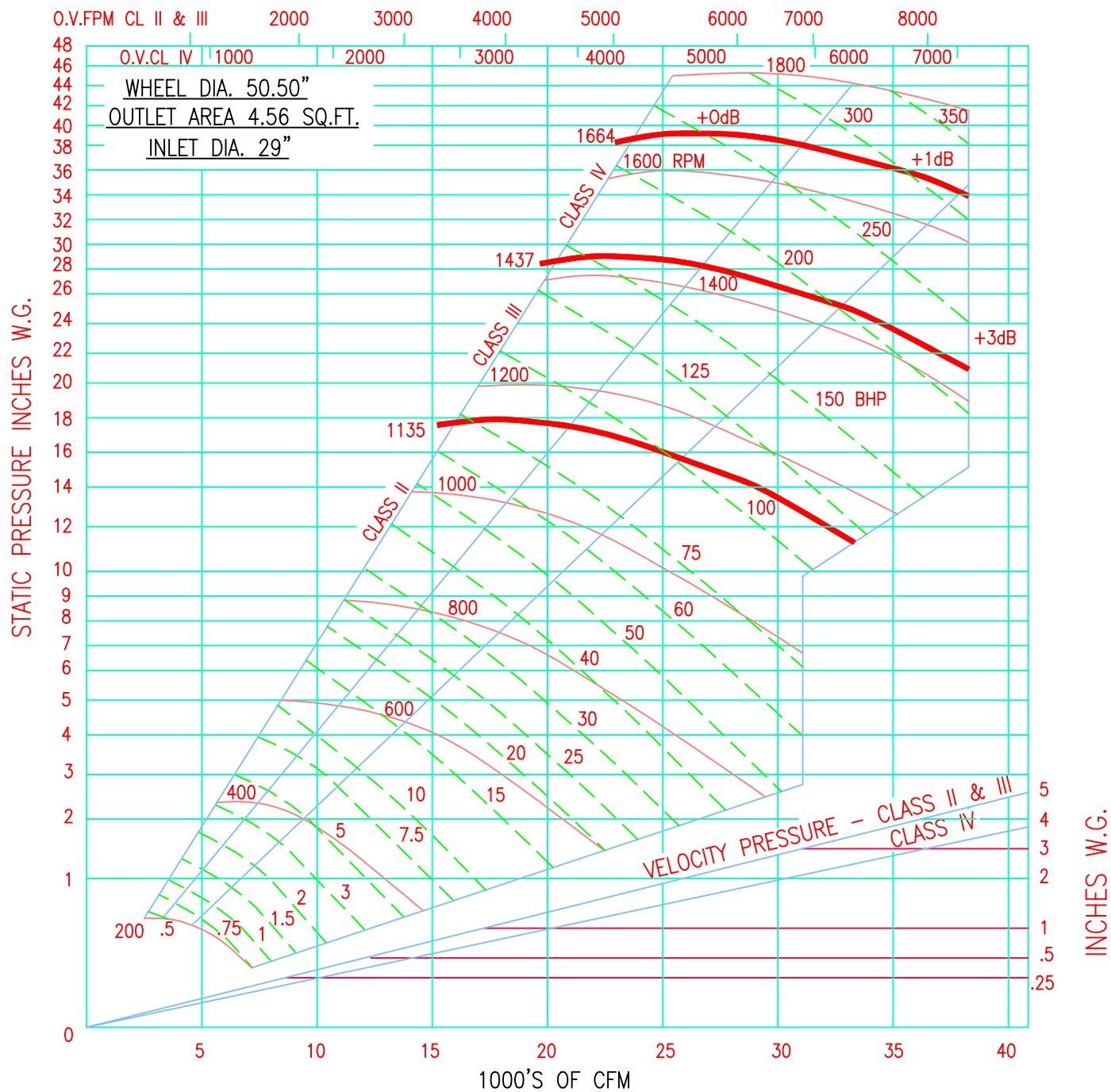


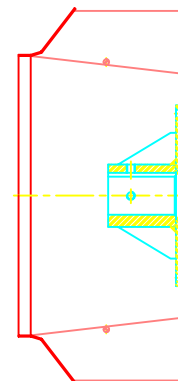
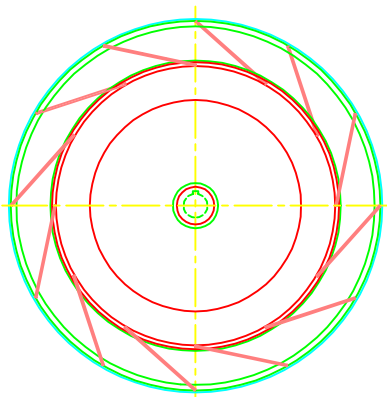
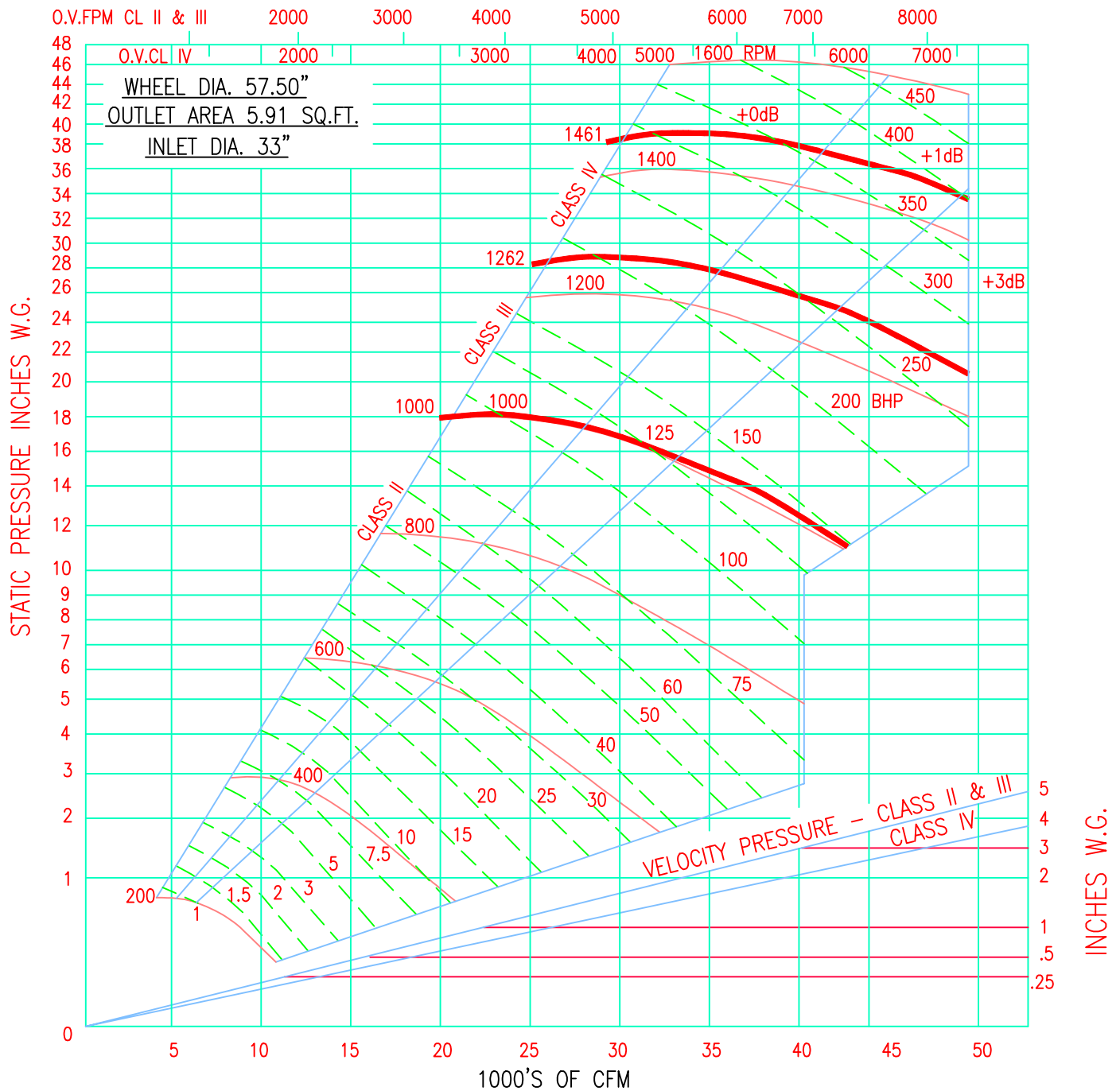


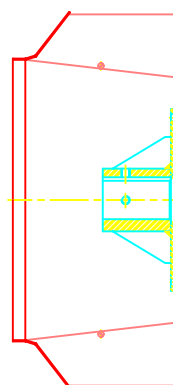
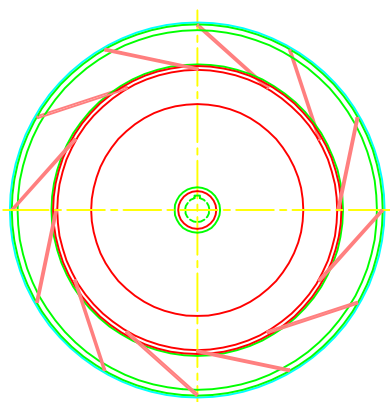
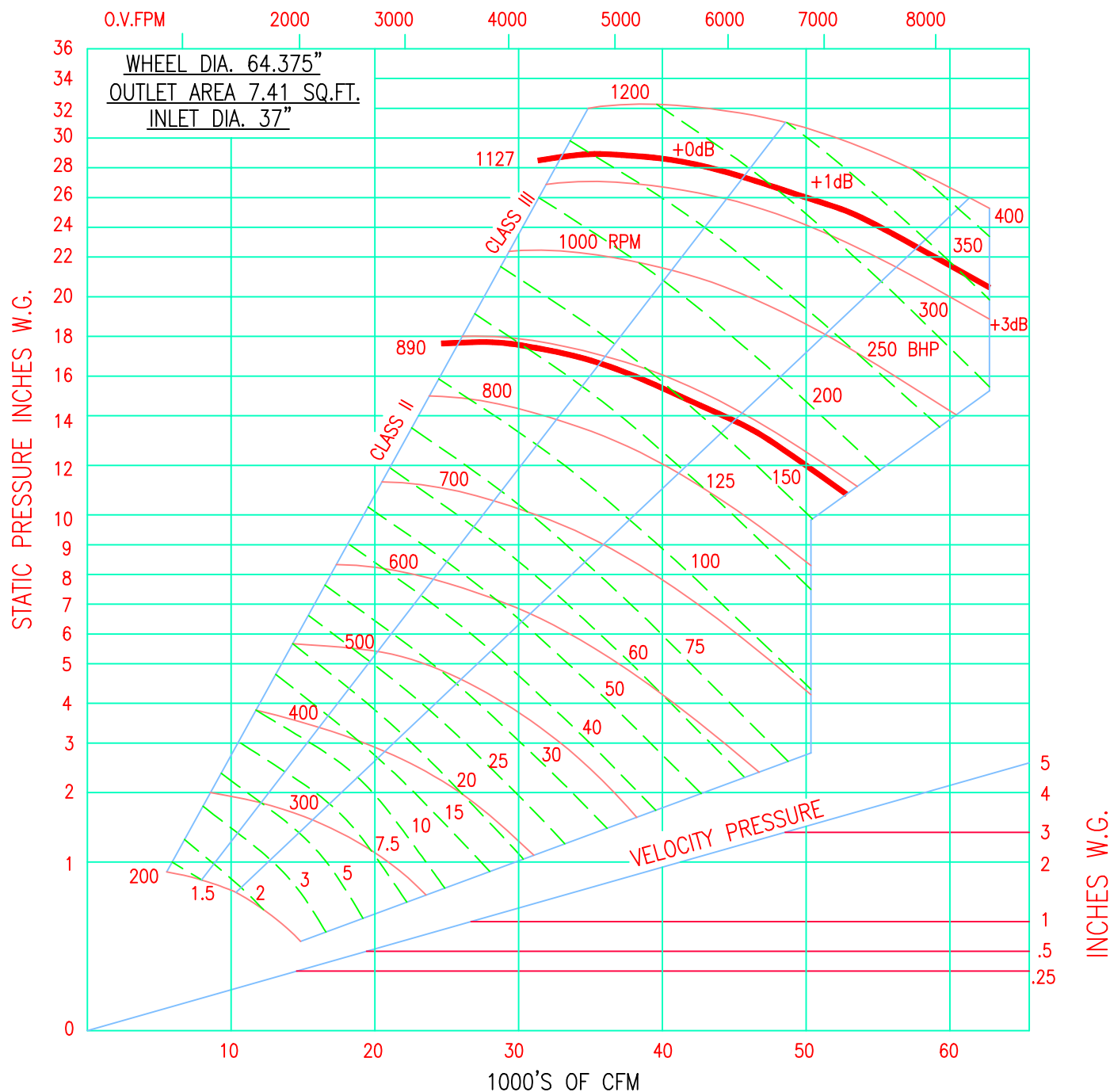


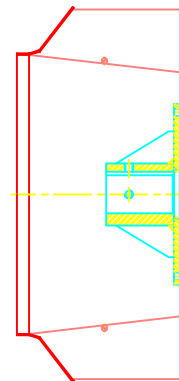
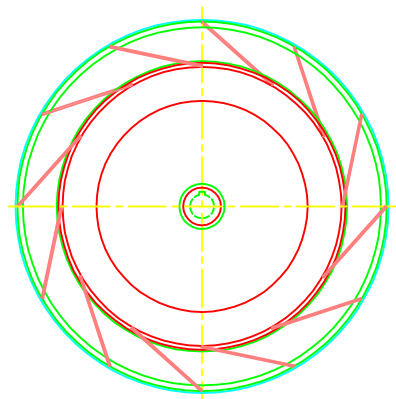
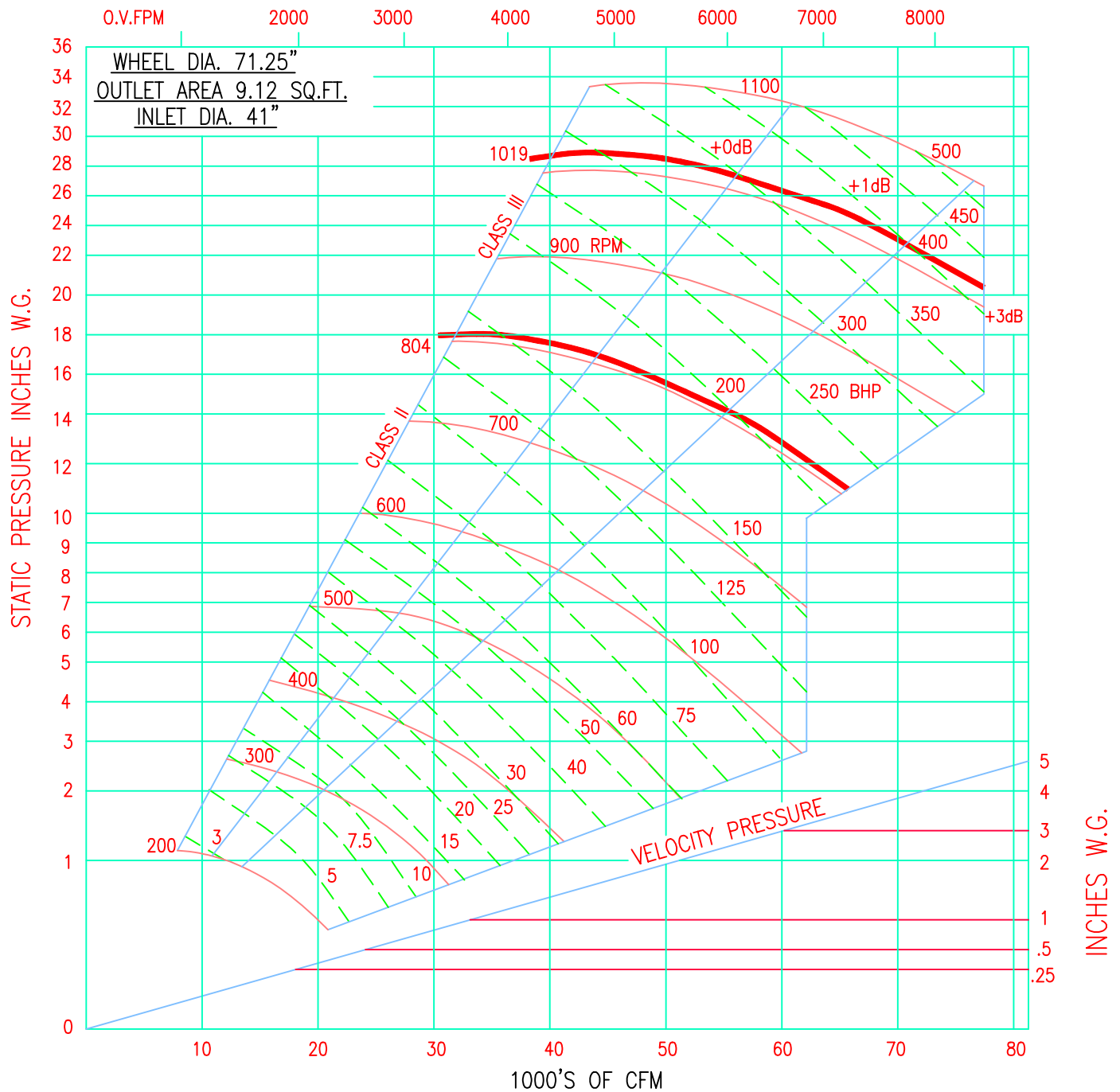


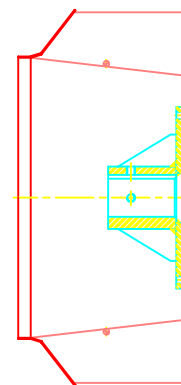
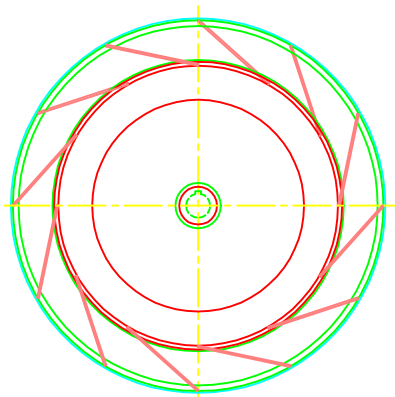
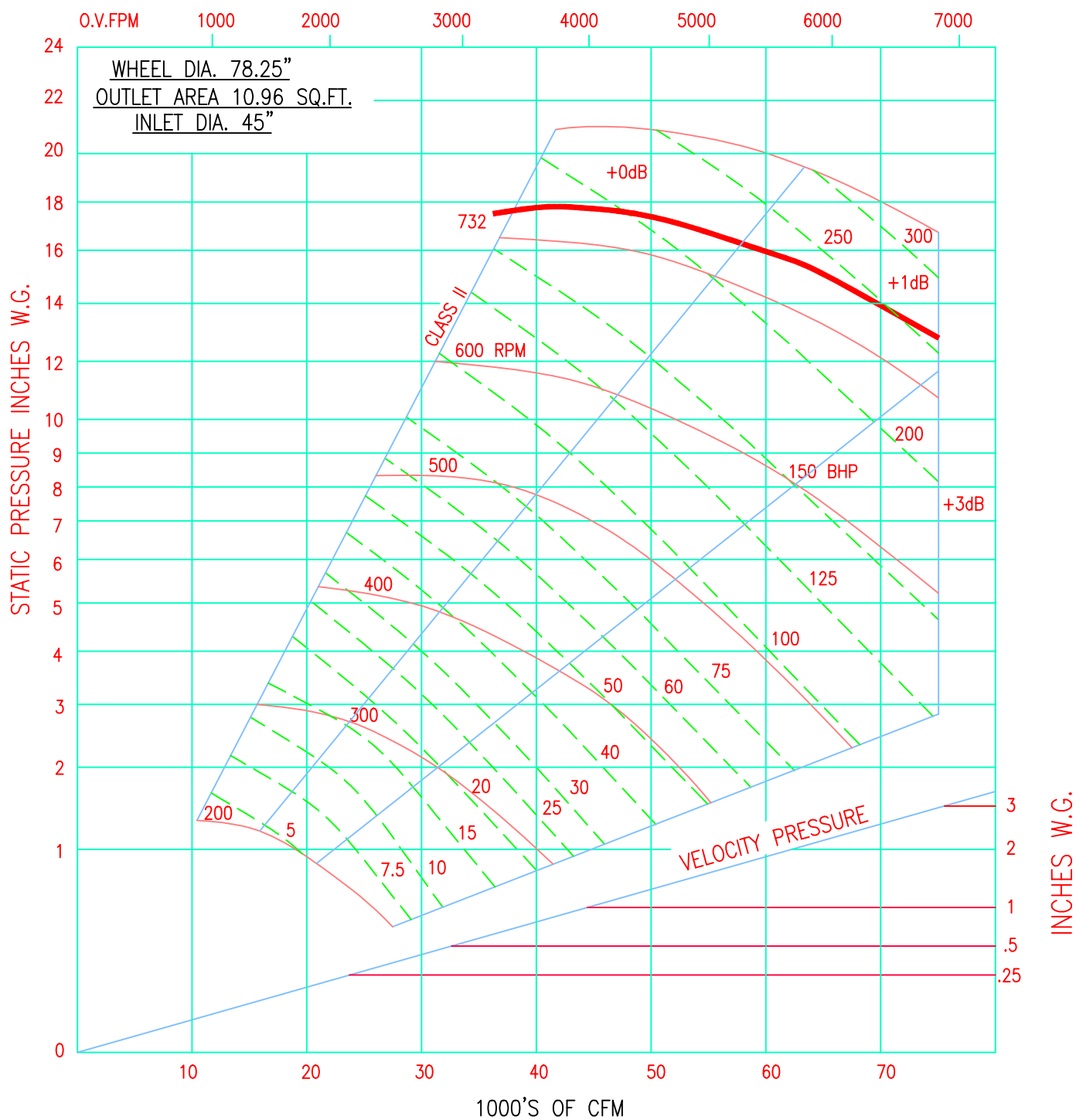


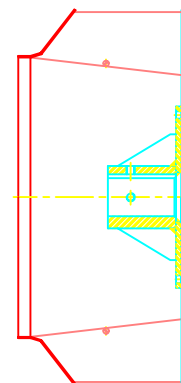
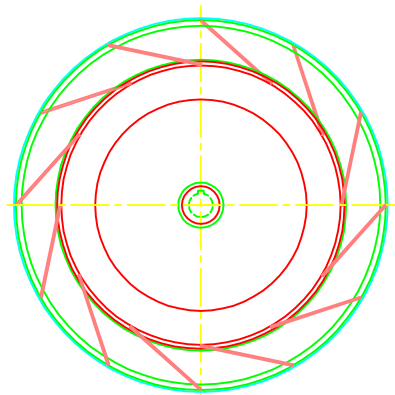
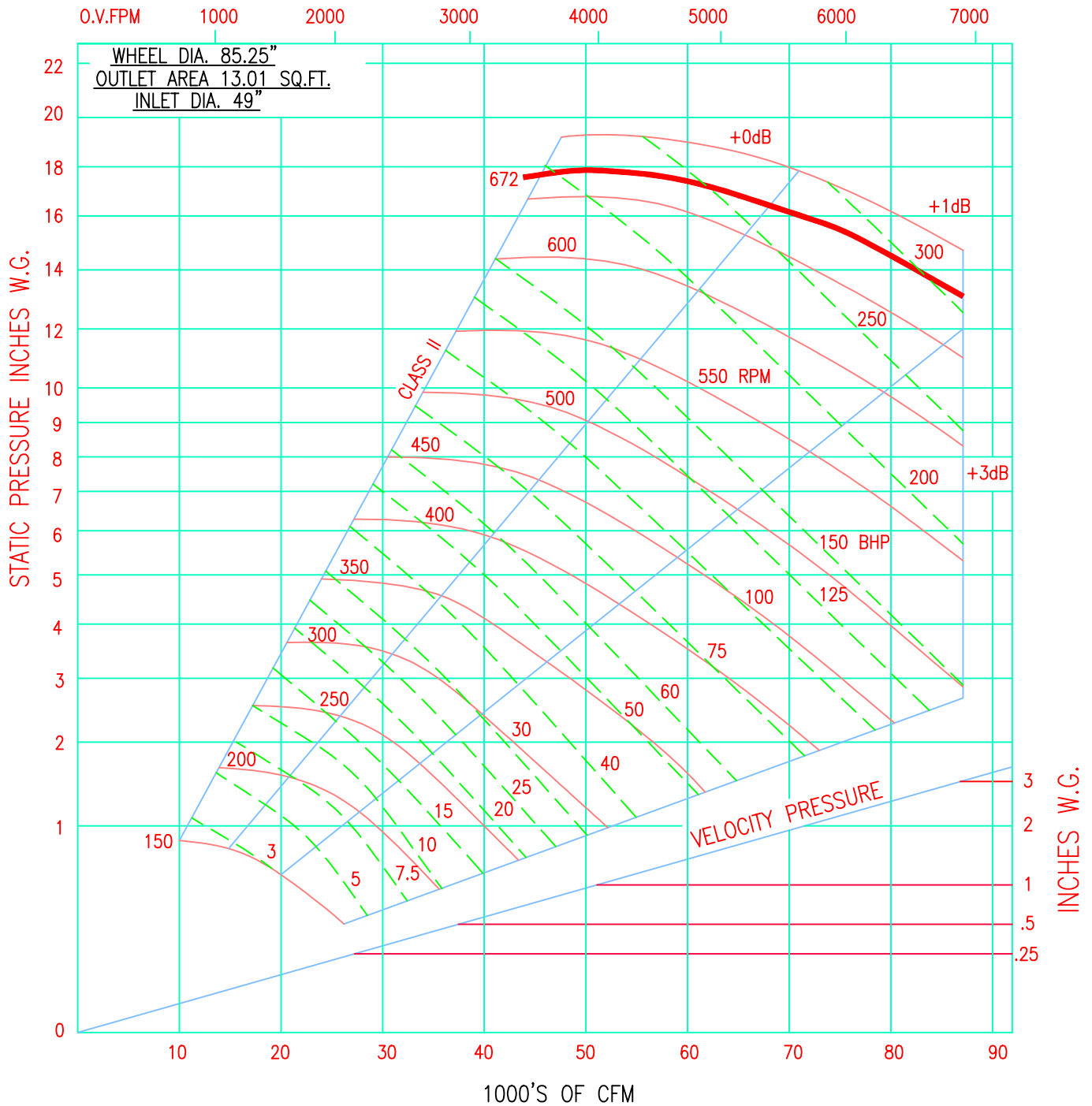


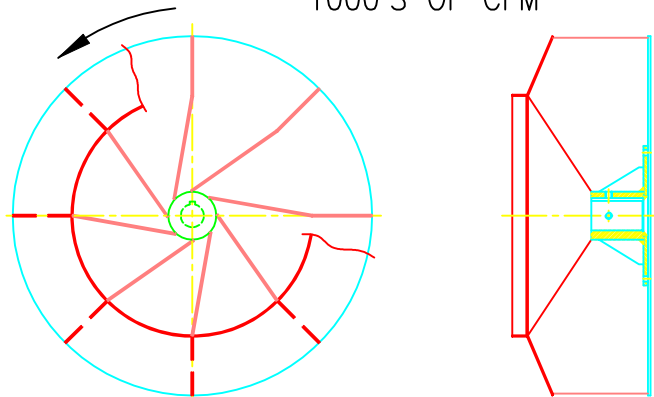
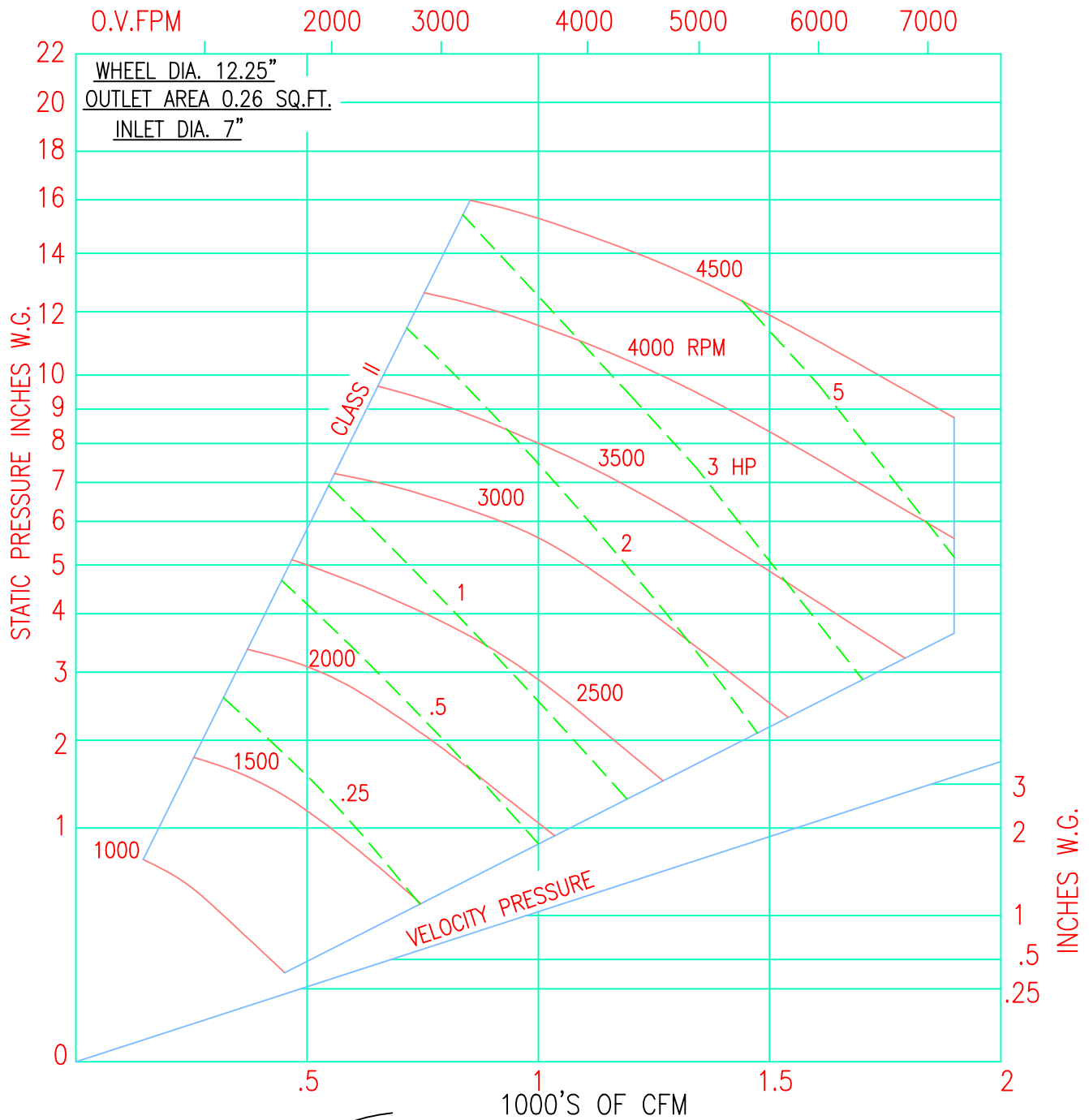




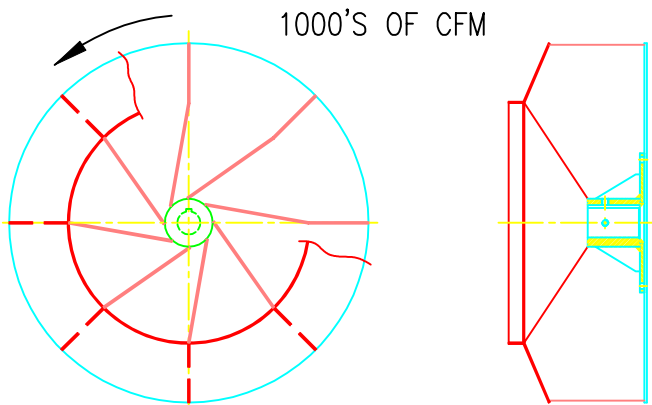
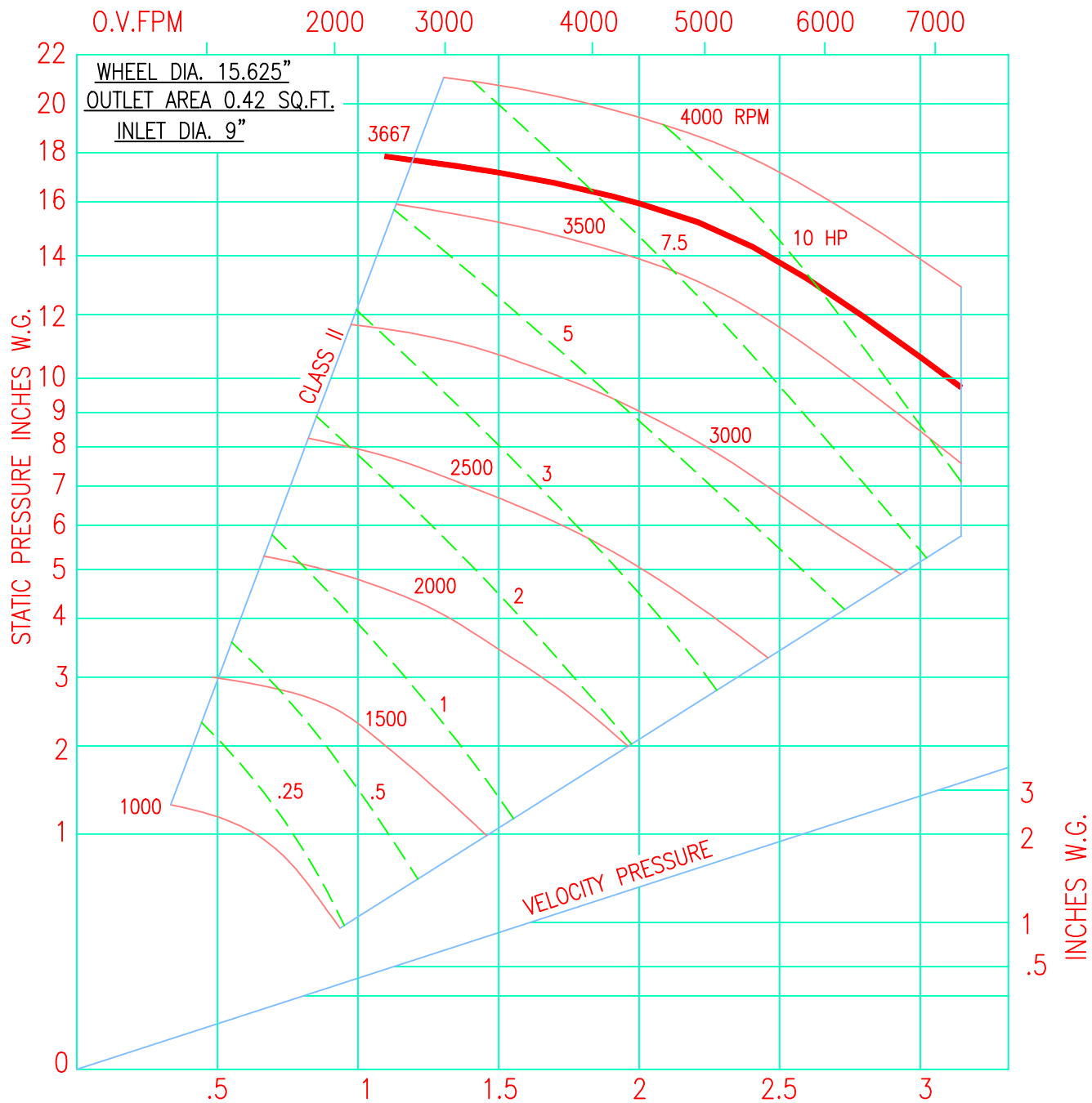




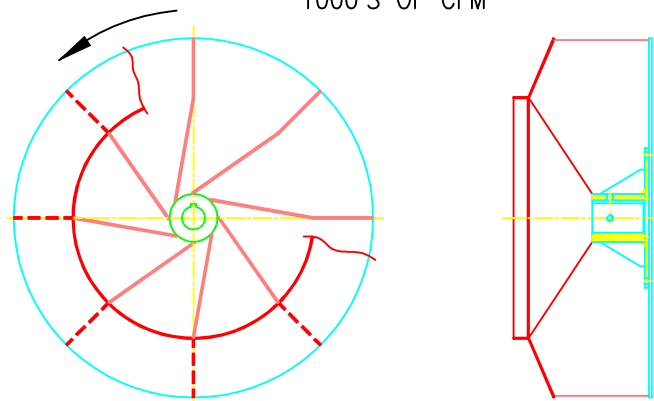
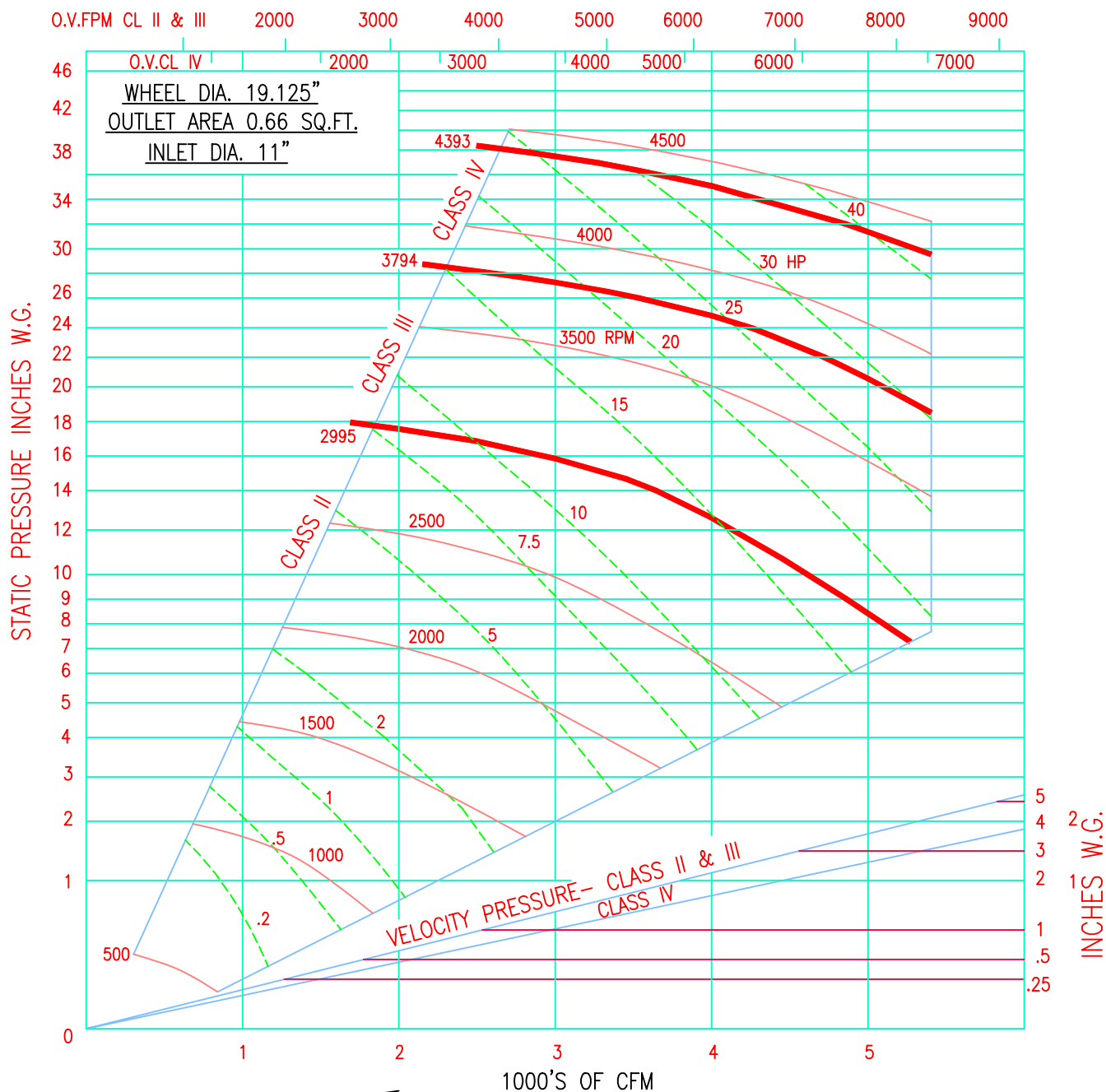




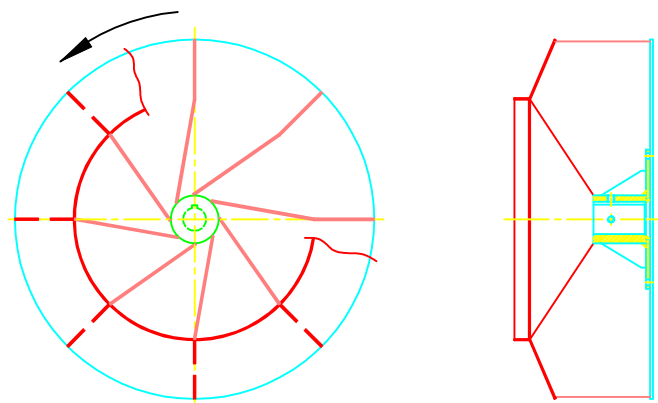
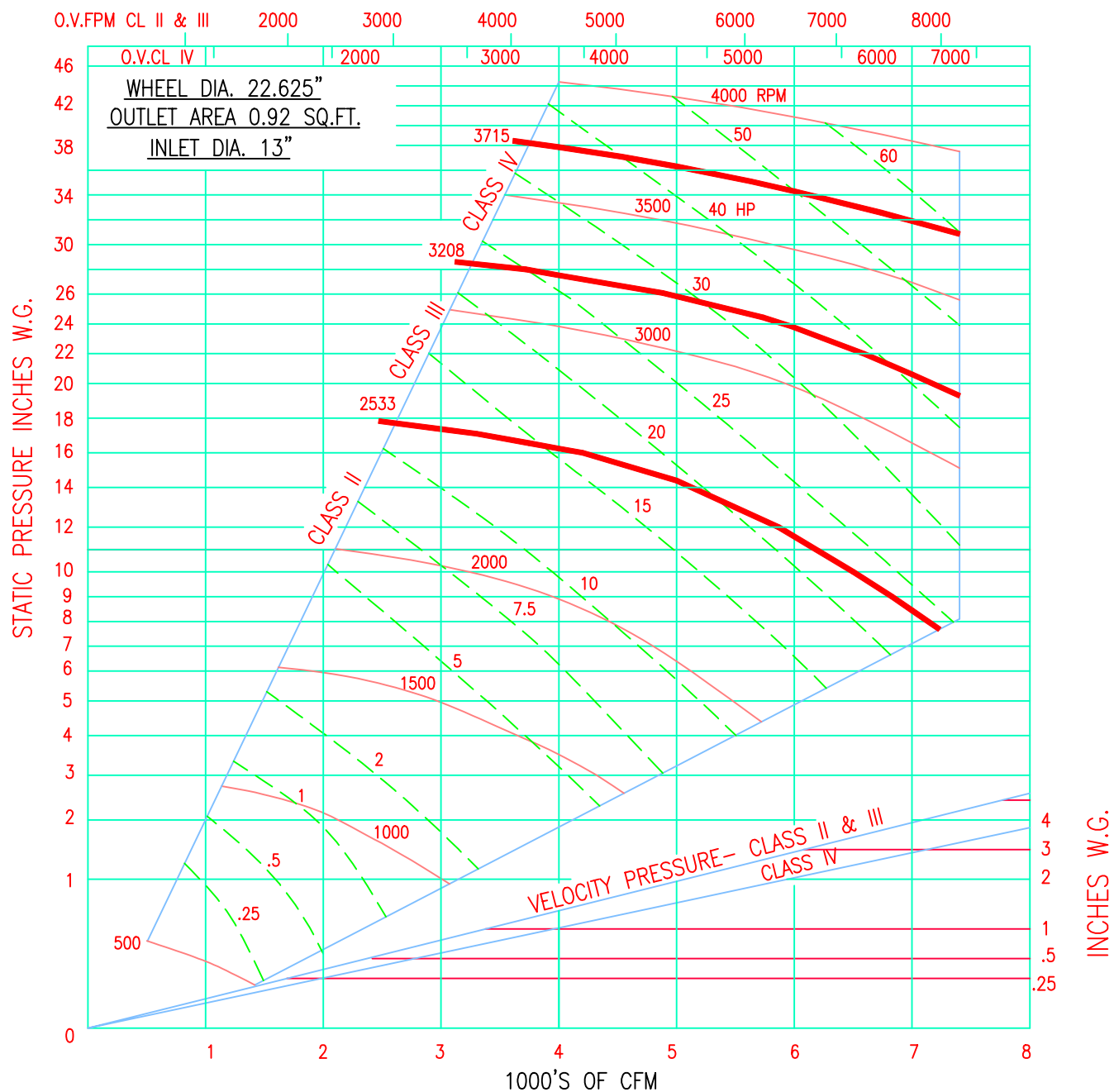
"CLOCK WISE" WHEEL SHOWN



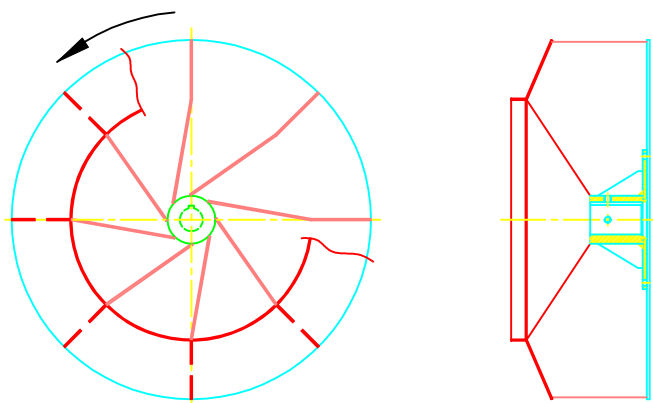
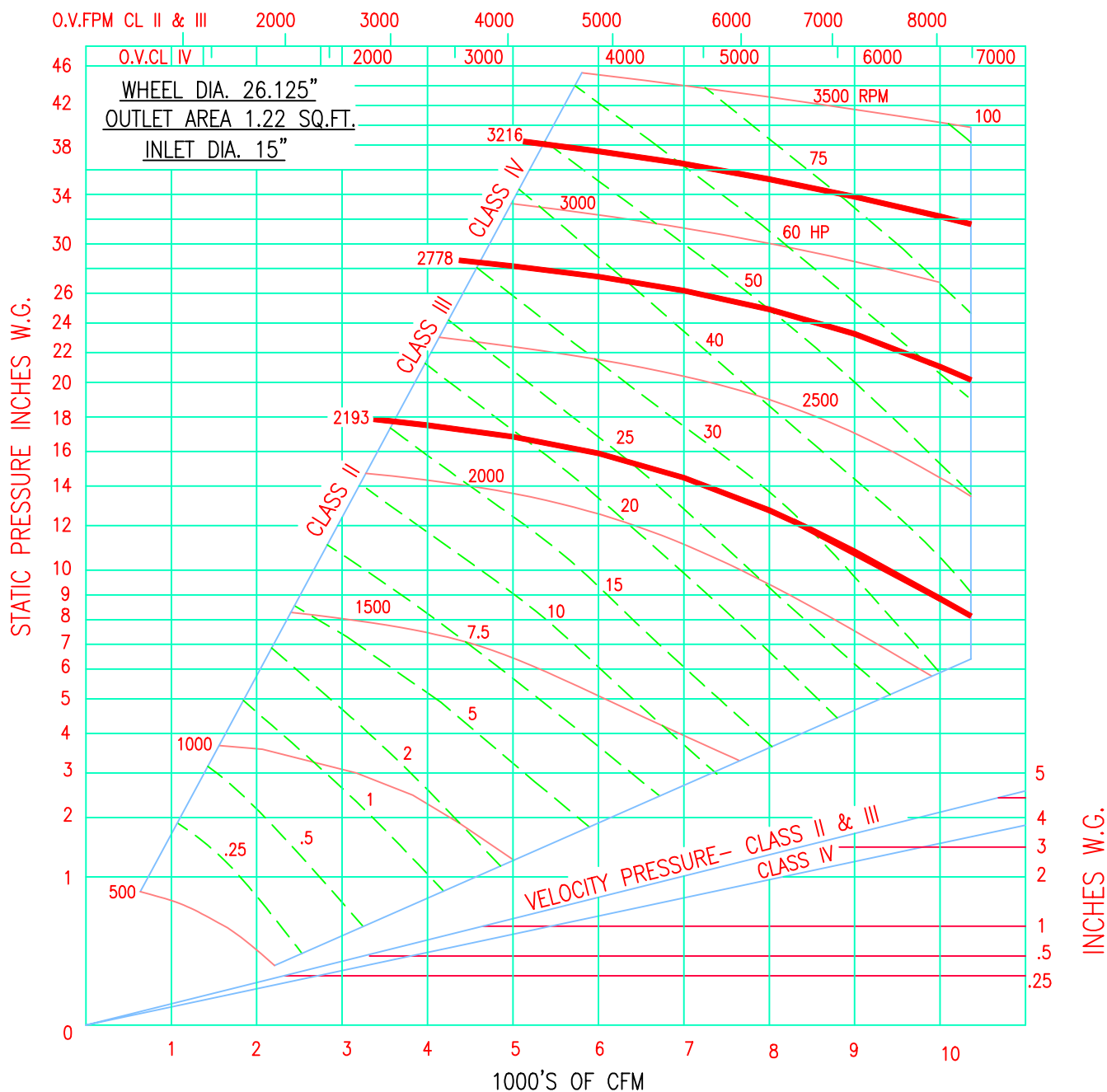
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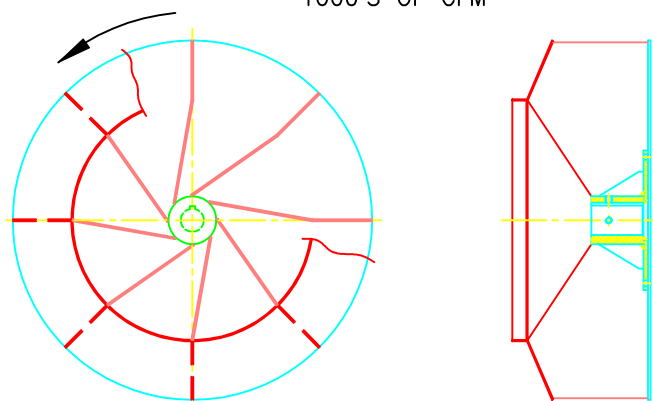
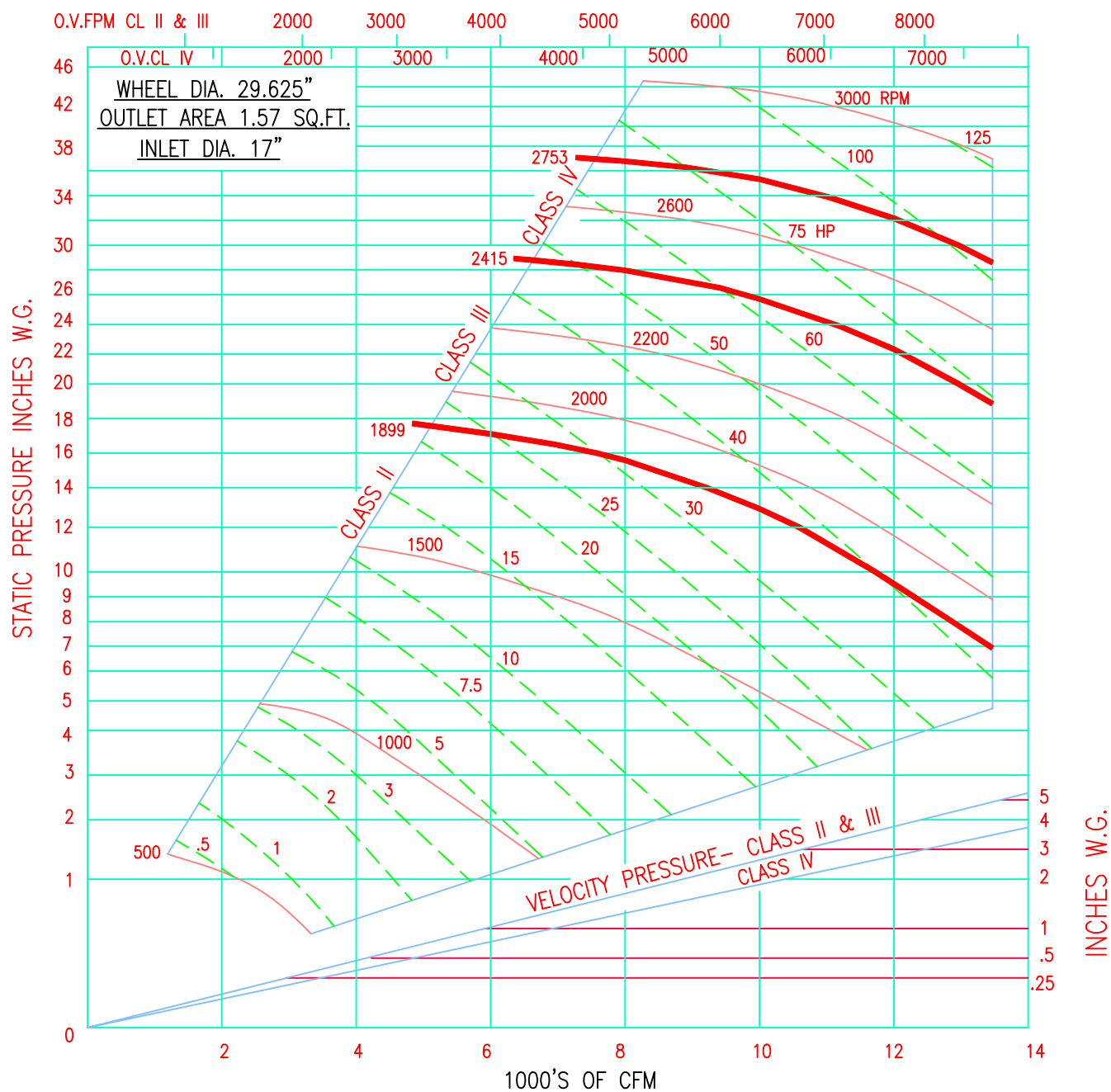
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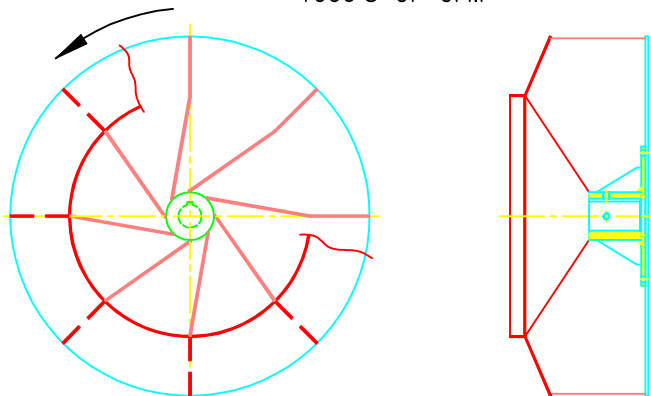
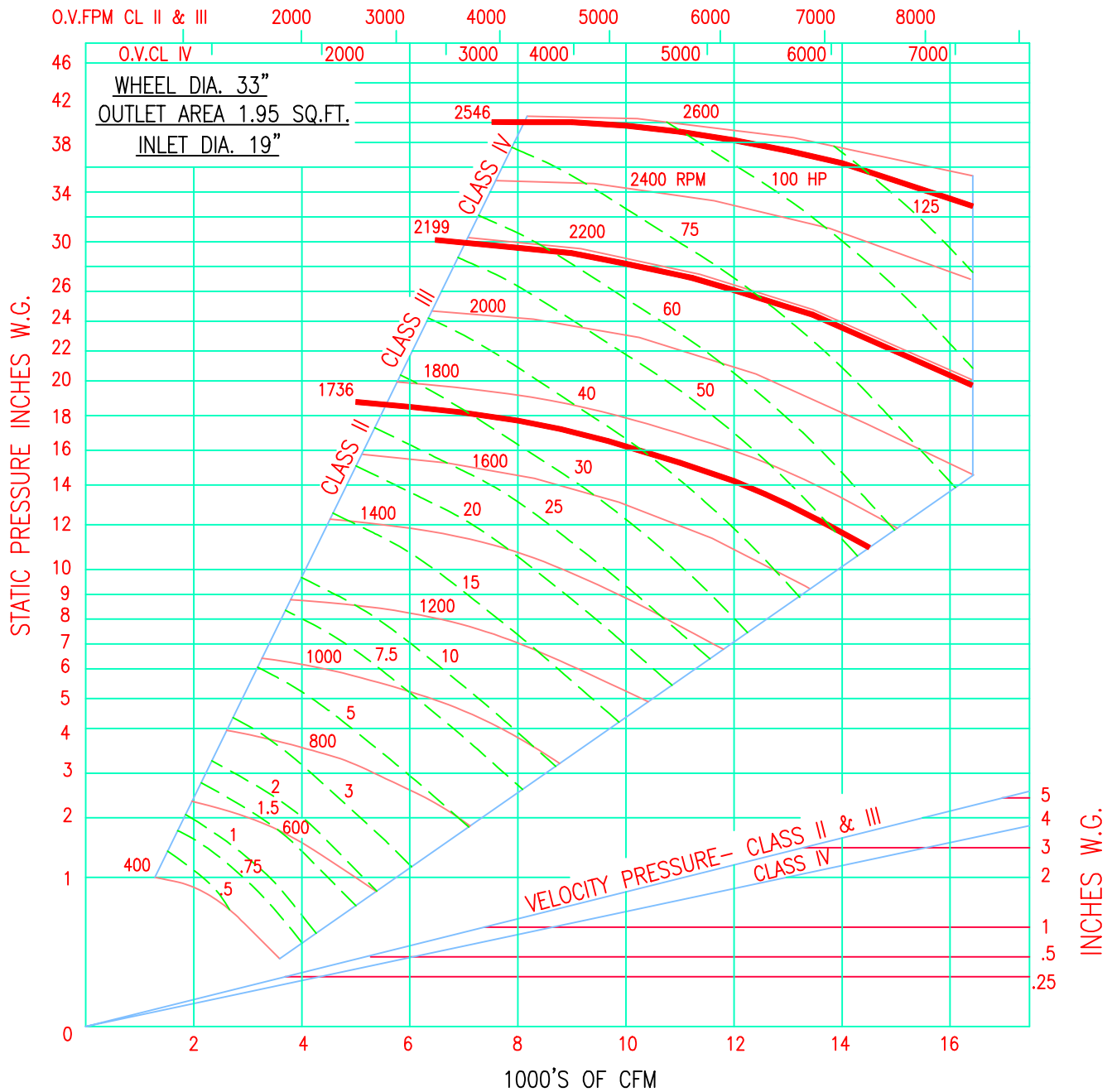
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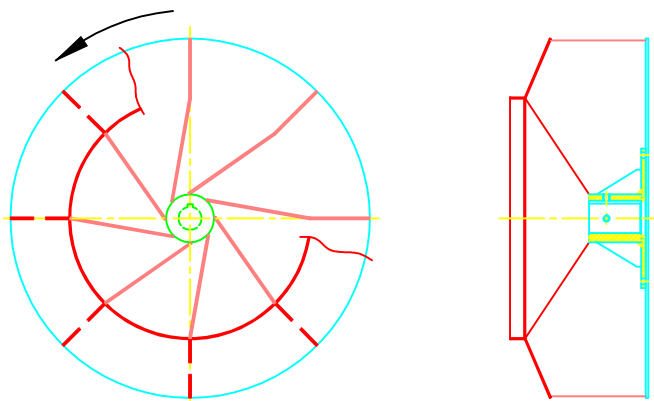
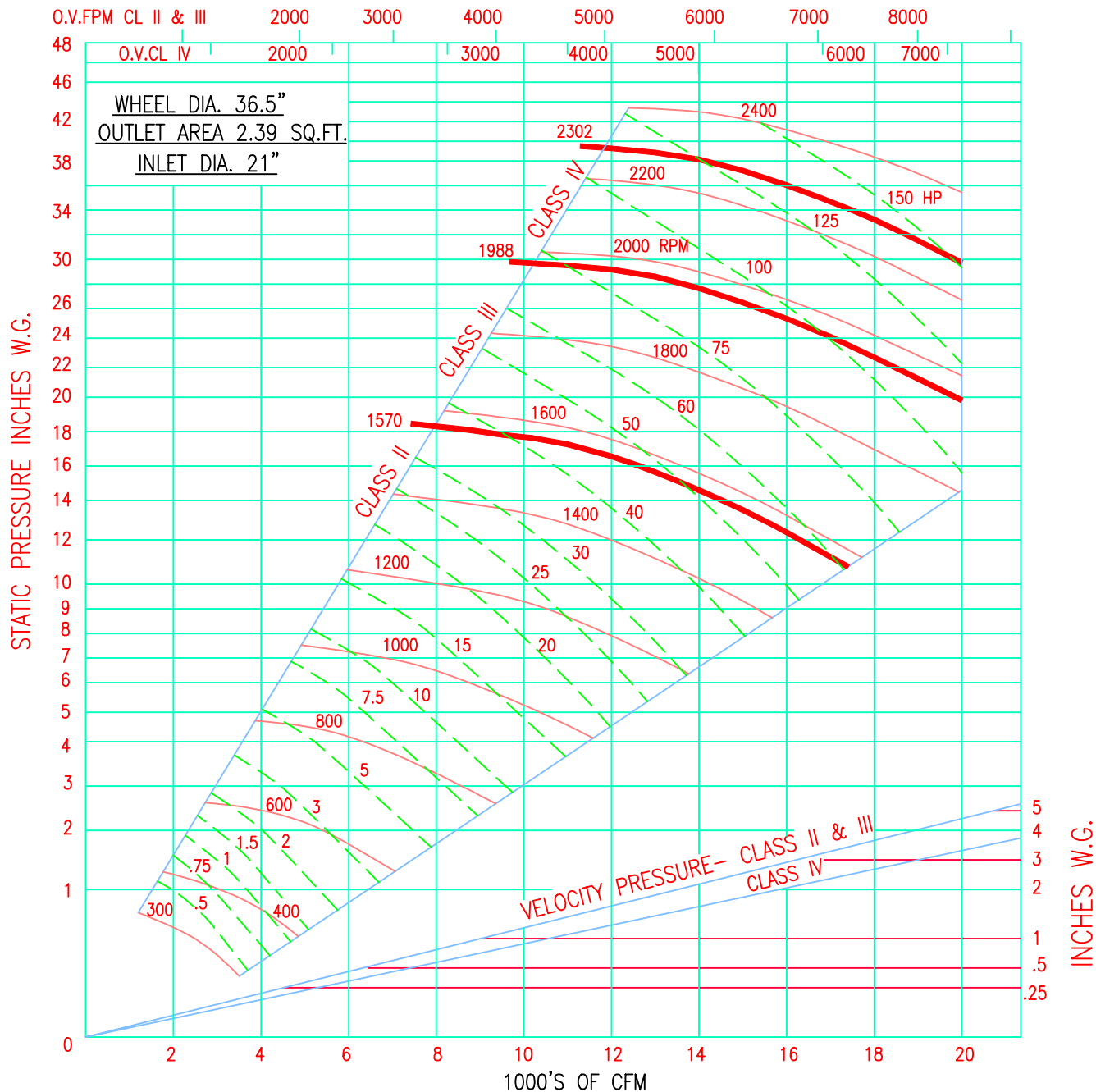
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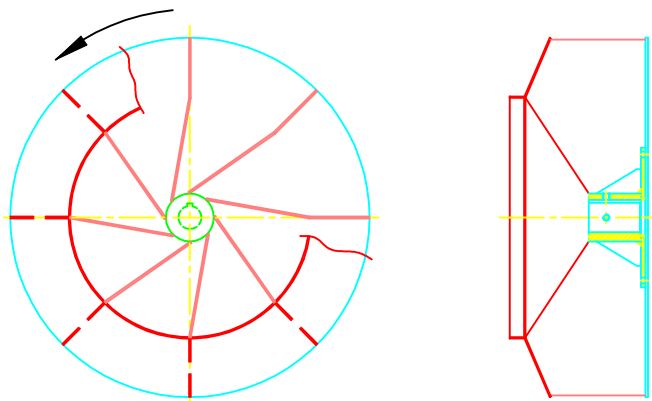
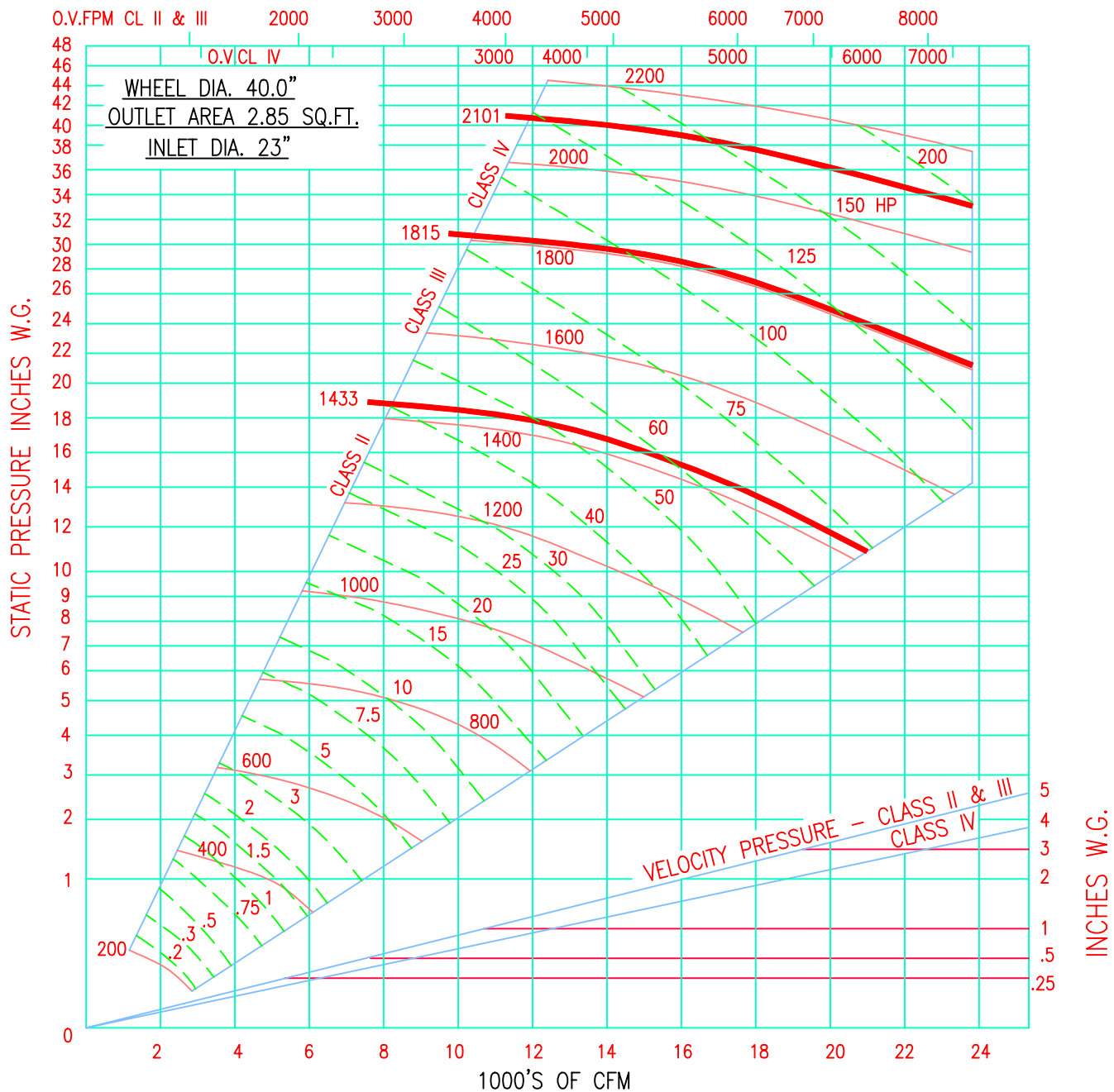
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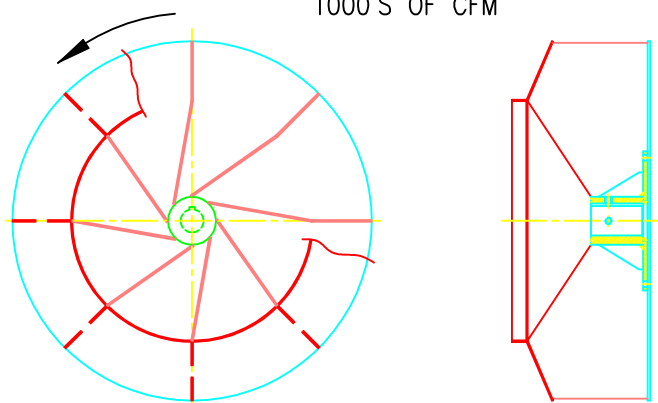
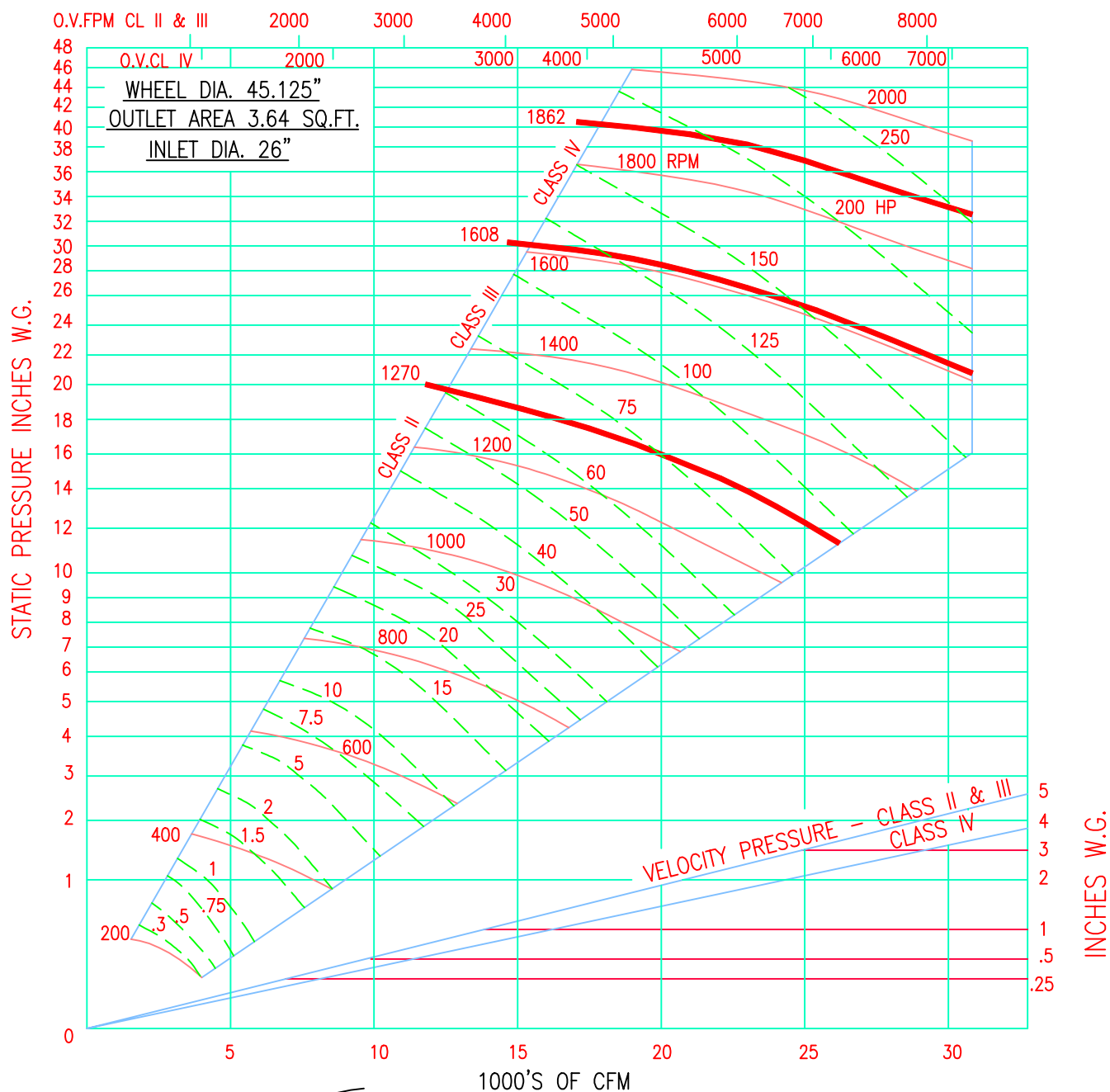
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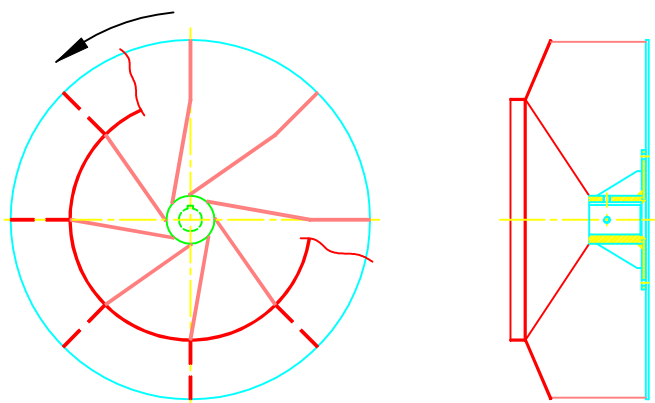
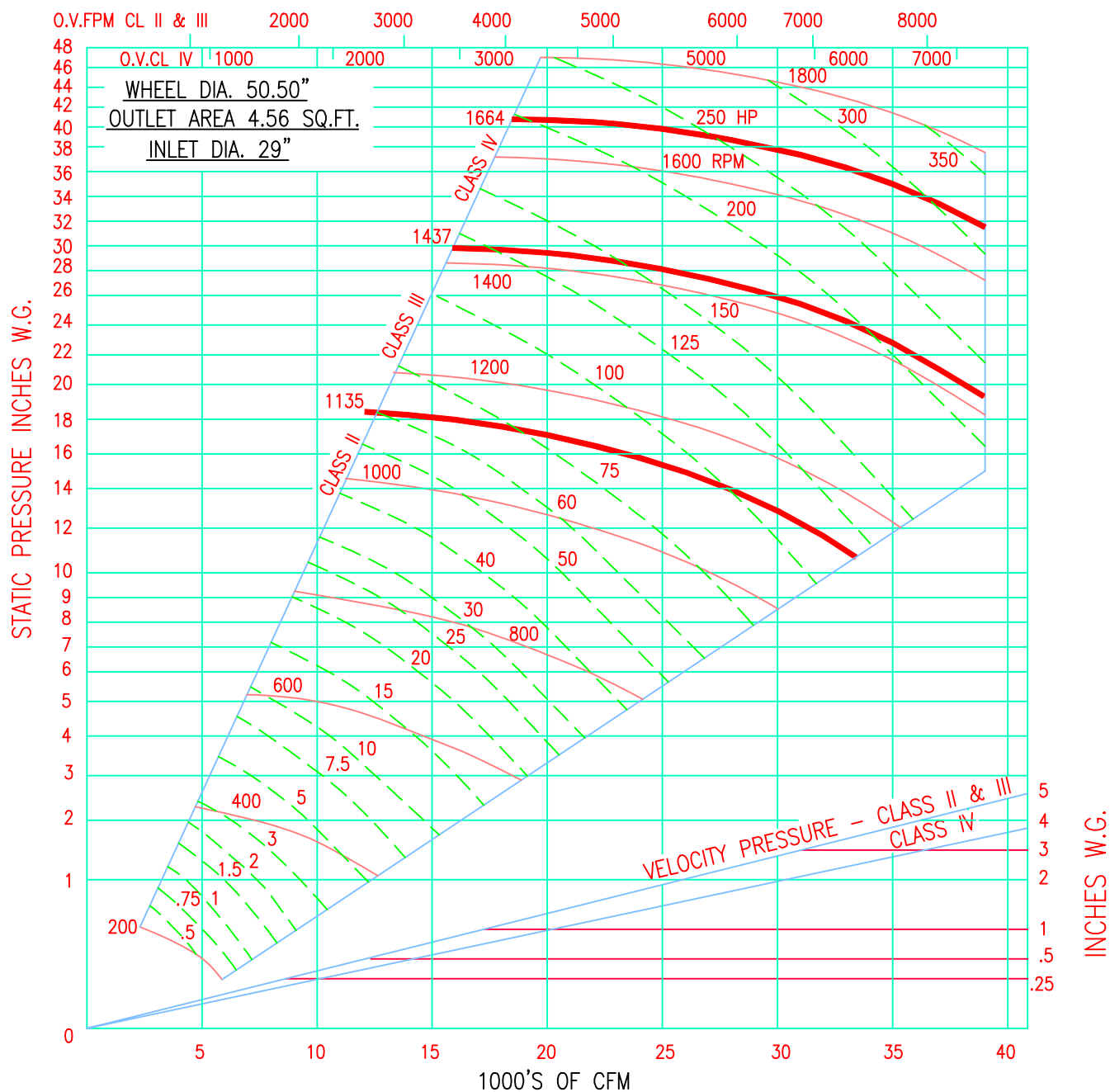
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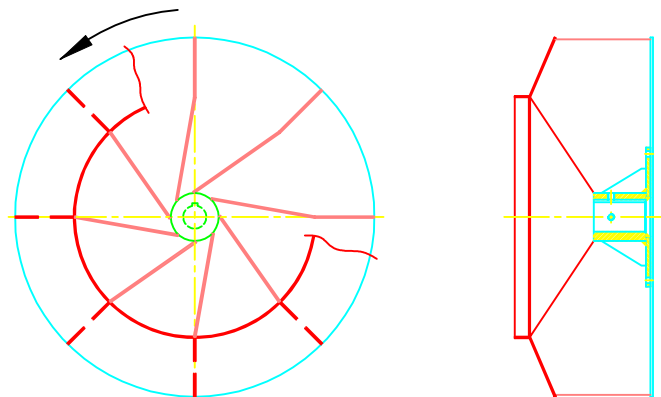
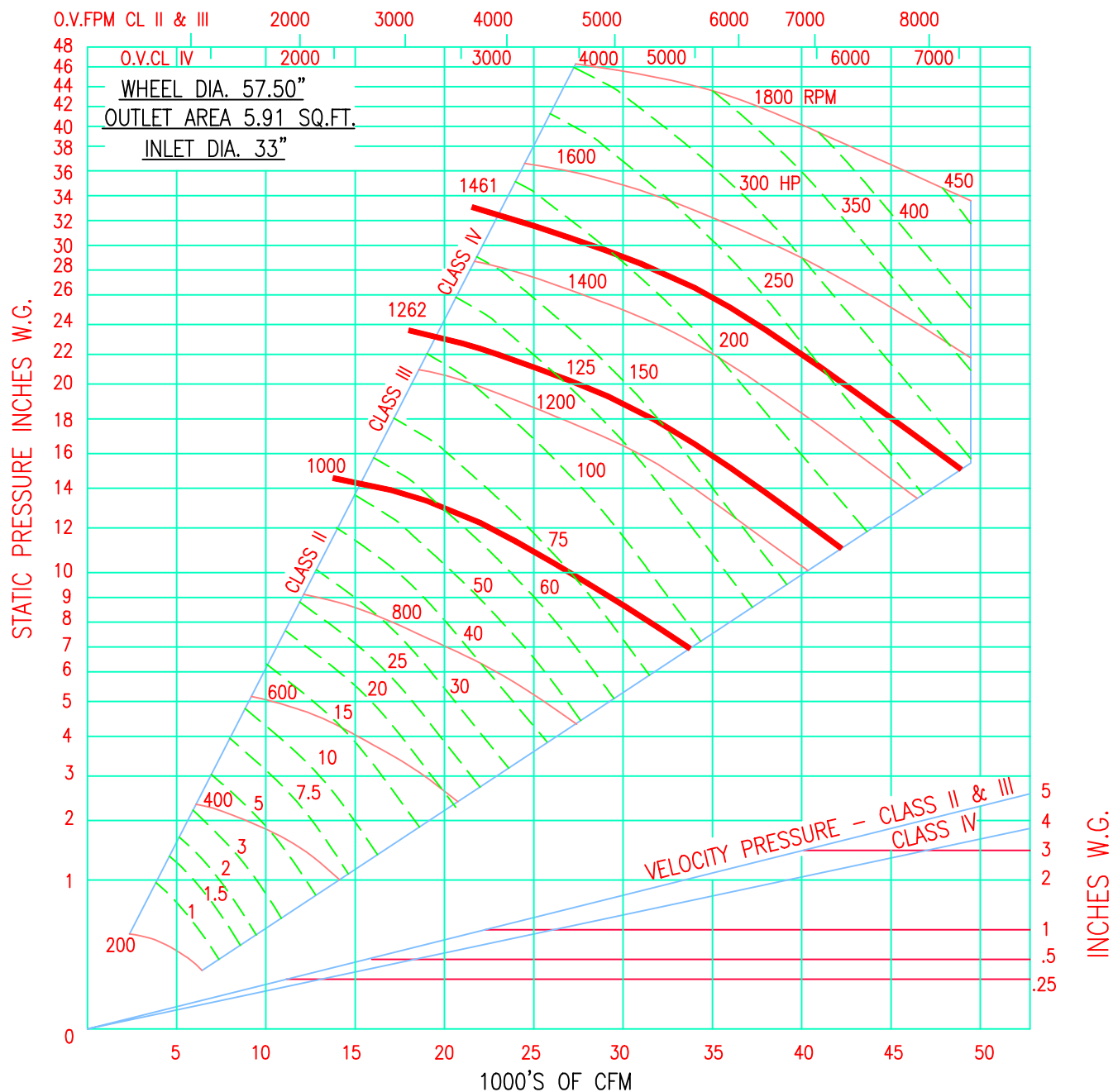
"CLOCK WISE" WHEEL SHOWN



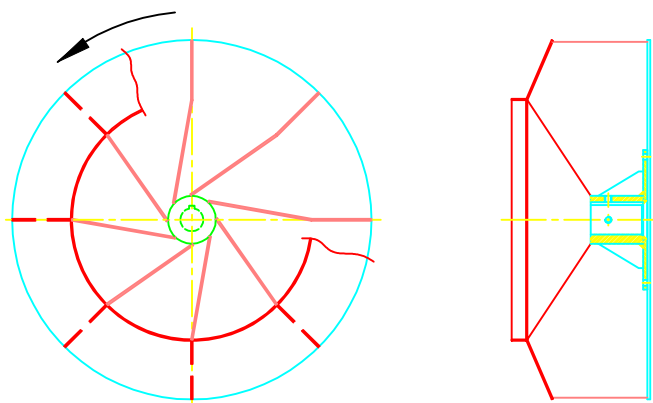
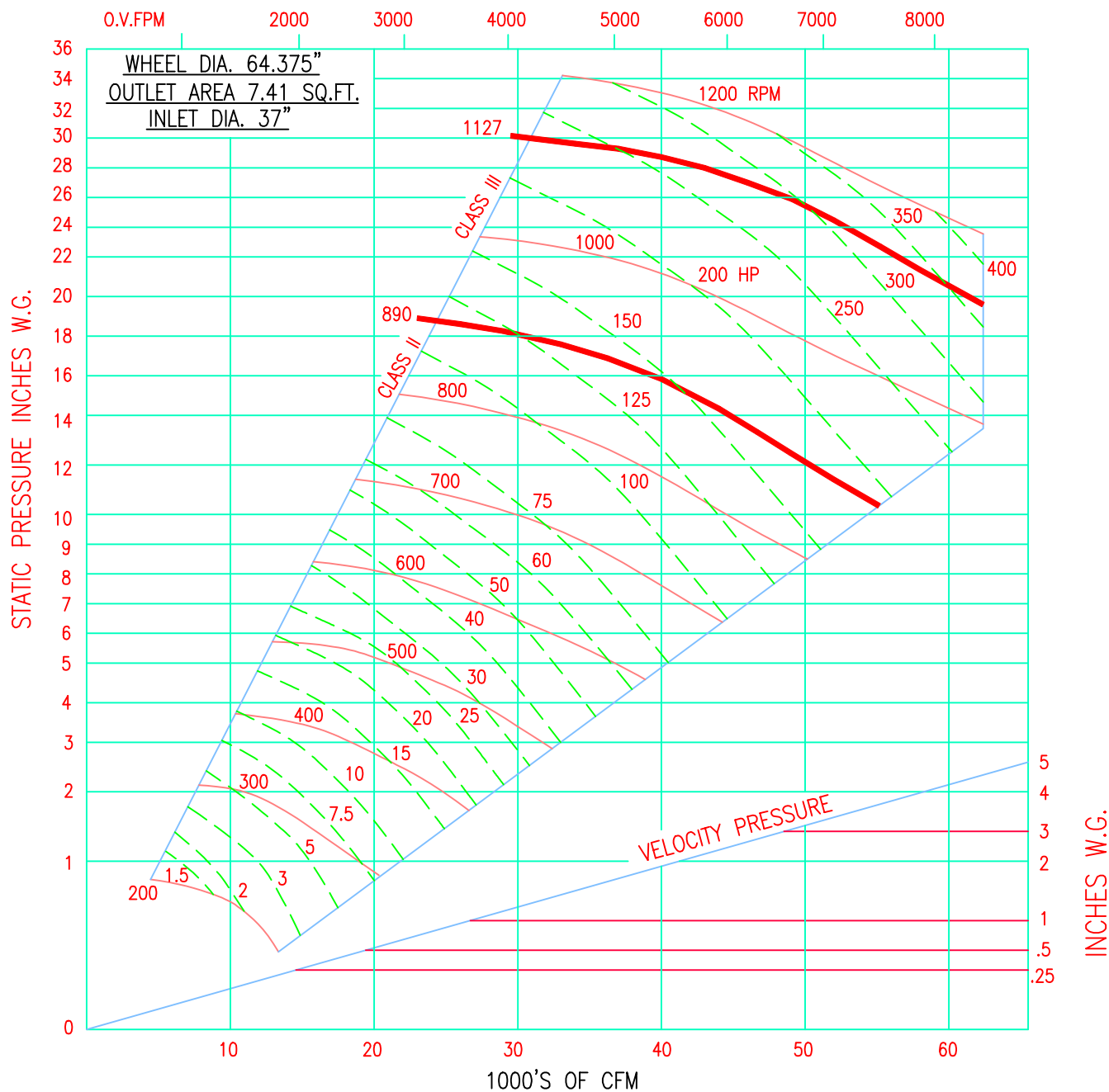
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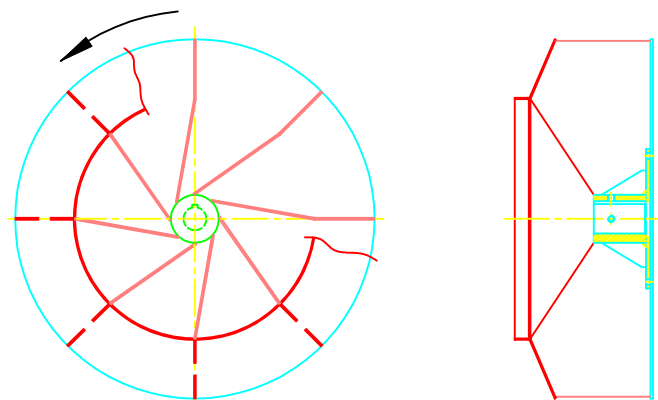
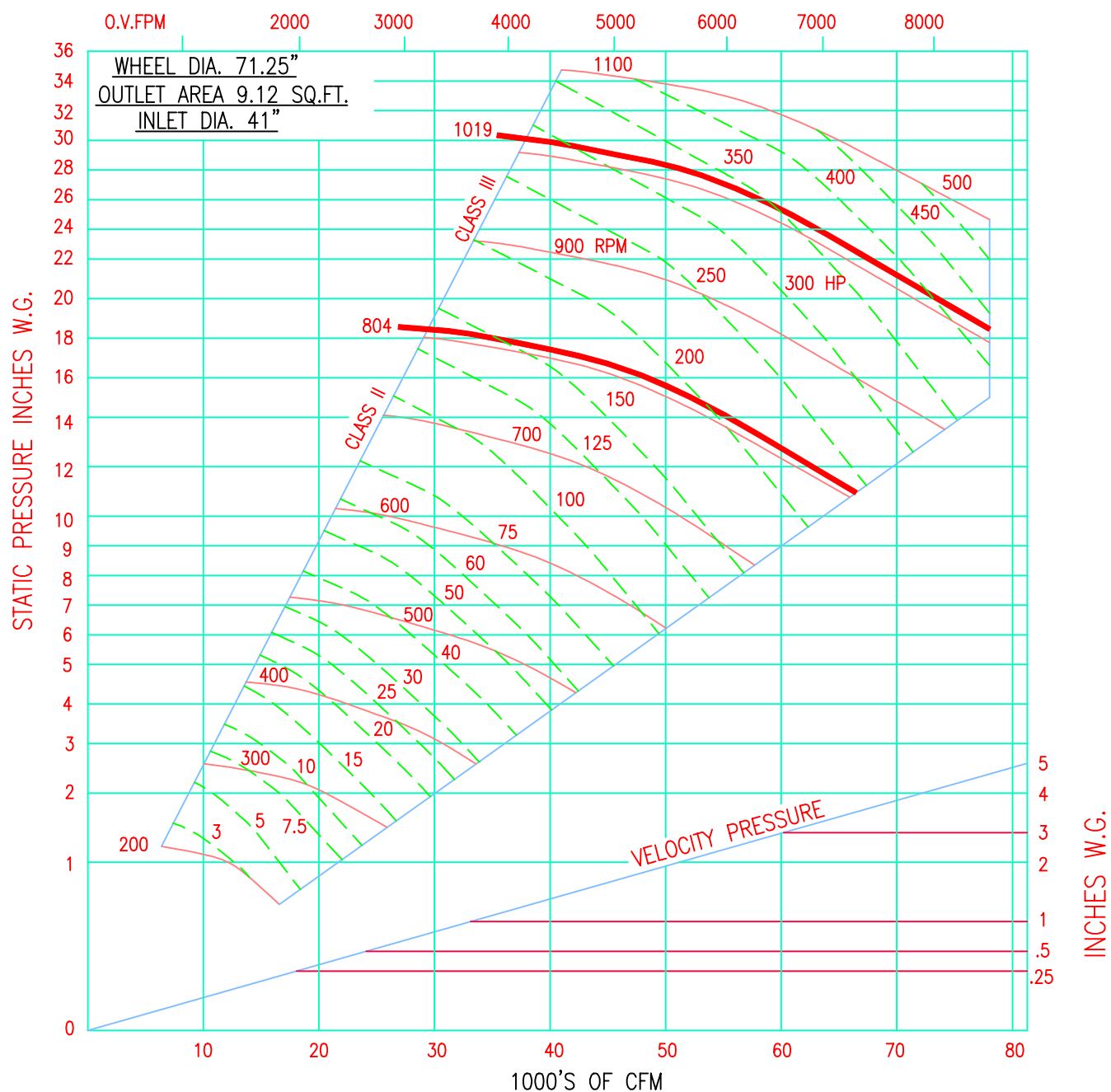
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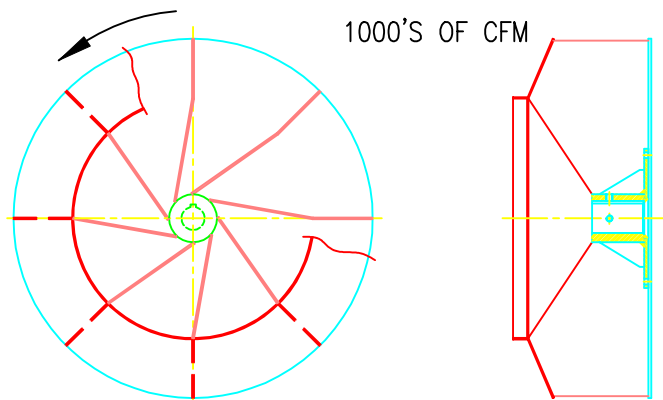
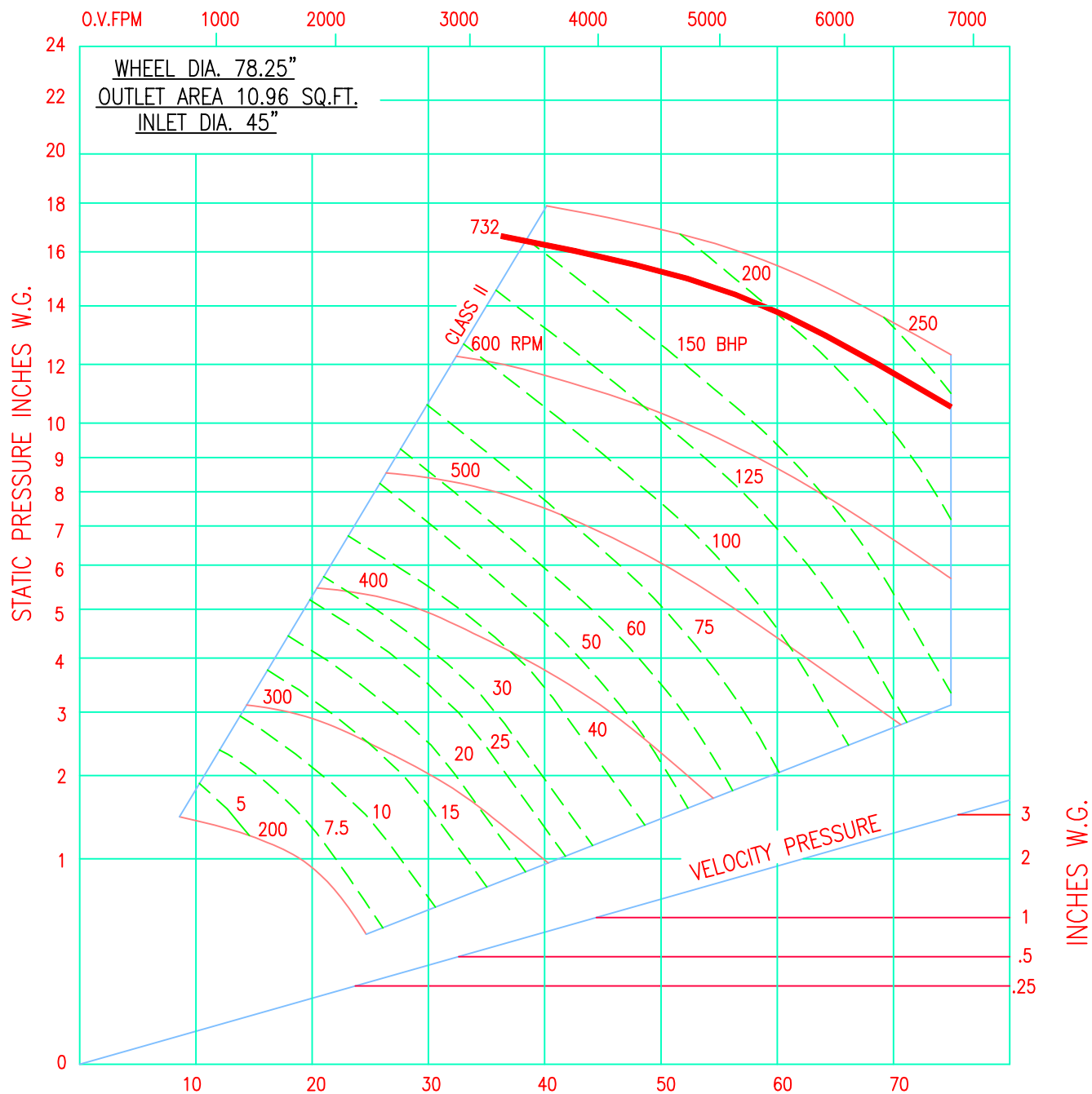
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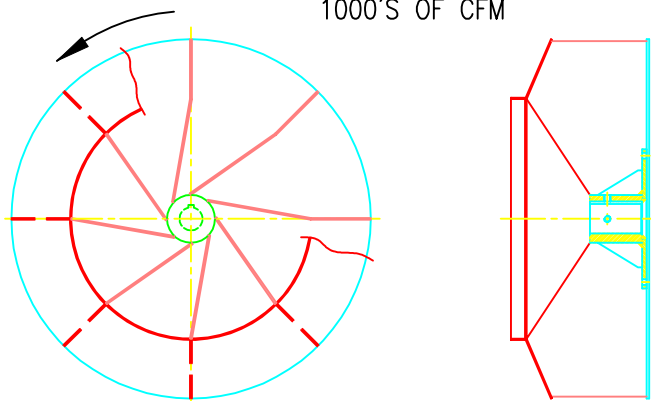
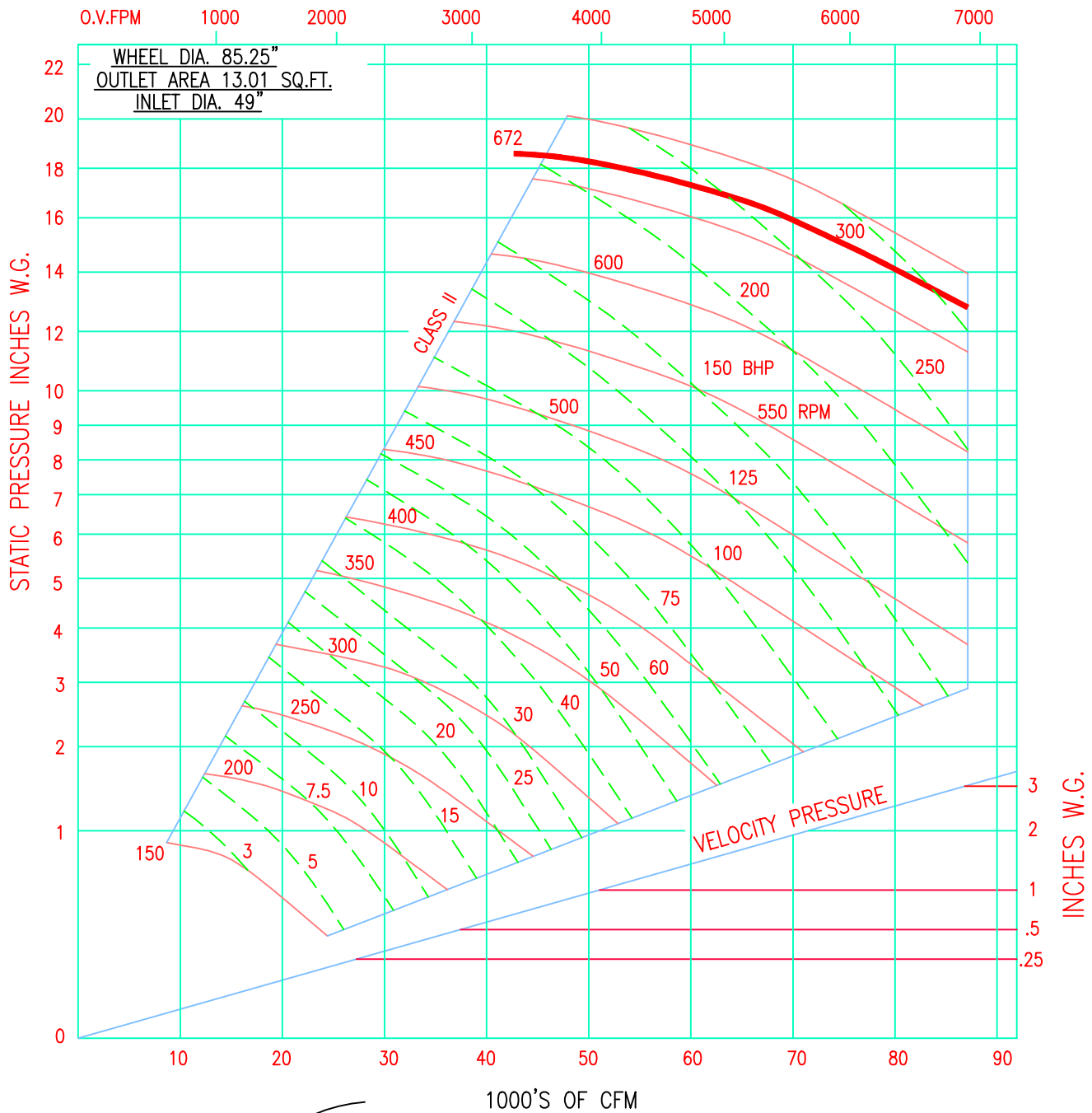
"CLOCK WISE" WHEEL SHOWN



"CLOCK WISE" WHEEL SHOWN



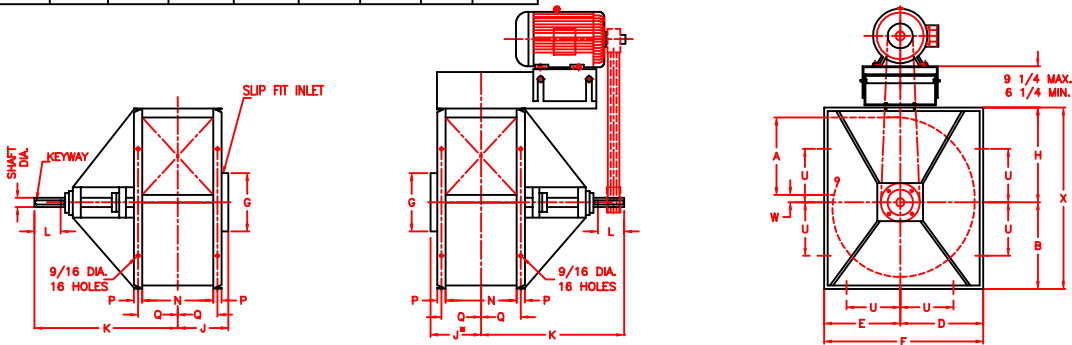
"CLOCK WISE" WHEEL SHOWN



"CLOCK WISE" WHEEL SHOWN

FAN SIZE	5	6	7	9	11	13	15	17
MAX. RPM-V-DRIVE	4600	4200	4690	3656	2980	2532	2181	1930
FAN SHV. MIN. DIA.	3"	3"	3"	4.5"	6.1"	7.4"	6.3"	9.4"
MAX. MOTOR HP	3	5	7 1/2	10	15	20	25	30

MOTOR FRAME	48	56	182T-184T	213T-215T	254T-256T
0 (INCHES MAX)	6	6 3/4	9 3/4	11	13



ADJUSTABLE MOTOR BASE
ARRANGEMENT 9T & 9S
COUNTER CLOCKWISE

FIG. 15
CCW TH

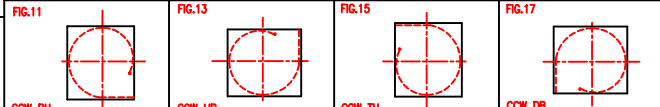
DIMENSION - INCHES

FAN SIZE	WHEEL DIA.	SHAFT DIA.	KEYWAY SIZE	A	B	D	E	F	G	H	J*	K	L	N	P	Q	U	W	X	MOTOR FRAME 9T & 9S	
																				Min.	Max.
5	8 3/4	15/16	1/4x1/8	4 15/32	7 5/16	8	6 1/8	14 1/8	5	9 1/16	2 31/32	13 3/4	2	4 3/16	1 1/2	3	3	3 1/16	16 3/8	48	184T
6	10 1/2	1 3/16	1/4x1/8	5 5/8	8 9/16	9 3/8	7 3/8	16 3/4	6	10 9/16	3 1/2	14 7/8	2 1/2	5	1 1/2	3 3/8	4 3/4	3 7/16	19 1/8	48	184T
7	12 1/4	1 3/16	1/4x1/8	6 5/8	9 7/16	10 3/16	8 9/16	18 3/4	7	12 1/16	4 1/8	17 13/16	3	5 7/8	1 1/2	3 13/16	5 3/8	3 15/16	21 1/2	48	184T
9	15 5/8	1 3/16	1/4x1/8	8 1/2	11 15/16	13	11	24	9	15 1/16	5 1/8	19 11/16	4	7 1/2	1 1/2	4 5/8	7 7/8	5 1/16	27	56	256T
11	19 1/8	1 7/16	3/8x3/16	10 7/16	14 5/8	16 1/4	13 1/2	29 3/4	11	18 1/8	8	20 7/8	4	9 1/8	1 1/2	5 7/16	10	6 3/16	32 3/4	56	256T
13	22 5/8	1 7/16	3/8x3/16	12 11/32	17 5/16	18 7/8	15 7/8	34 3/4	13	21 11/16	9 1/8	26 1/8	4 1/2	10 13/16	2	6 1/2	12 1/8	7 3/8	39	56	256T
15	26 1/8	1 15/16	1/2x1/4	14 1/4	19 13/16	21 5/8	18 3/8	40	15	24 11/16	10	27 11/16	5 1/4	12 1/2	2	7 3/8	14 5/8	8 7/16	44 1/2	143T	256T
17	29 5/8	1 15/16	1/2x1/4	16 1/8	22 5/16	24 3/8	20 3/4	45 1/8	17	27 11/16	11	28 11/16	5 1/4	14 1/8	2	8 3/16	17	9 9/16	50	145T	256T

* Add 3/8" to 'J' when Sp. Resist. Constr. (200° F & above) is required. Sizes 5-15 only

ITEM NO.	IDENTIFICATION	NO. REQD.	FAN SIZE	CLASS	ARRGT.	FIG. NO.	PERFORMANCE						DRIVE DATA				
							CFM	O.V.	SP	R.P.M.	TEMP.	BHP	MTR. SHV.	FAN SHV.	BELTS	CTRS.	

ITEM NO.	MOTOR DATA						SPECIAL FEATURES	POSITION OF DISCHARGE & ROTATION			
	HP	RPM	CURRENT	FRAME	TYPE	MTR. POS.		FIG.1	FIG.3	FIG.5	FIG.7



A/9T & A/9S ILLUSTRATED VIEW FROM DRIVE SIDE SHOWN A/1 VIEWED THE SAME LESS MOTOR BASE

SPECIAL FEATURES

- CLEAN-OUT DOOR:
- FLANGED INLET
- HOUSING DRAIN
- OUTLET DAMPER CONTROL
- INLET SCREEN
- COOLING WHEEL & GUARD
- MOTOR & DRIVE MOUNTING
- OSHA BELT GUARD
- SHAFT SEAL
- LINT FREE CONSTRUCTION
- OSHA BEARING & SHAFT GUARD
- EXTENDED GREASE TUBE FITTING
- HIGH TEMPERATURE PAINT OR SPECIAL COATING
- TYPE "C" SPARK RESISTANT CONSTRUCTION
- FLANGED OUTLET PUNCHED
- TYPE "T" VIBRATION BASE
- RUBBER IN SHEAR
- SPRINGS
- SLIP FIT INLET

NOTES:

-REFER TO ORDER ACKNOWLEDGEMENT FOR SHIPPING DETAILS

CUSTOMER _____

JOB NAME _____

LOCATION _____

P.O.# _____



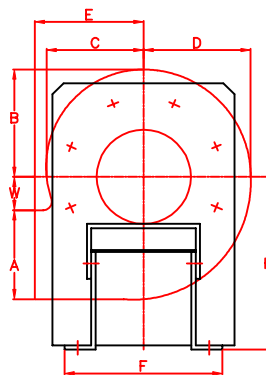
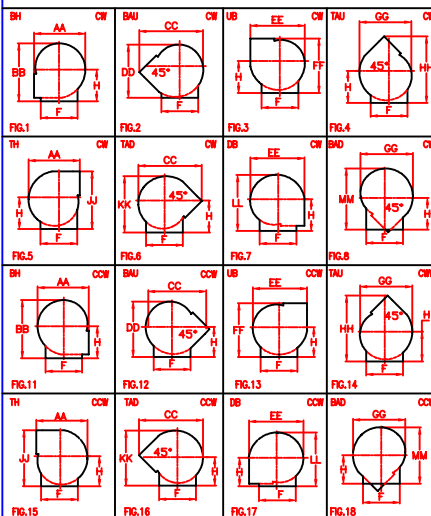
SERIES 6000 DESIGN 6900
ARRANGEMENT 1 & 9T/9S CLASS II

SHELDONS ENGINEERING

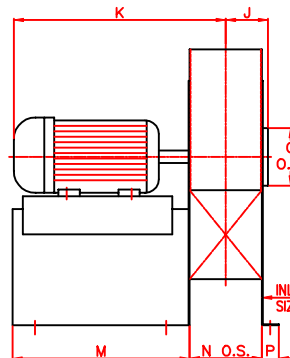
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DRAWING CERTIFIED BY S.E. APPROVAL REQUIRED-RELEASED FOR PRODUCTION	DATE	ENGINEER	DWG#

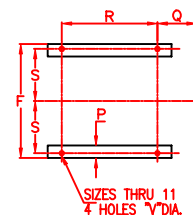
POSITION OF DISCHARGE & ROTATION FROM DRIVE SIDE



SIDE ELEVATION



FRONT ELEVATION



FUNDATION PLAN

DIMENSION - INCHES

FAN SIZE	WHEEL DIA.	SHAFT DIA.	MOTOR FRAME	A	B	C	D	E	F	G	H	J	* K	M	N	P	* Q	R	S	W	V
5	8 3/4	15/16	56	4 11/16	6 15/16	6 5/16	7 9/16	7 3/8	11 1/2	5	11 1/2	2 15/16	10 17/32	9 7/8	4 3/8	1 1/2	4 5/16	5 3/4	5 1/8	3	3/8
6	10 1/2	1 3/16	143-145	5 7/8	8 3/16	7 7/16	8 15/16	8 5/8	11 1/2	6	12 5/16	3 15/32	15 17/32	9 7/8	5 3/16	1 1/2	4 23/32	5 3/4	5 1/8	3 5/16	3/8
7	12 1/4	1 3/16	182-184	6 13/16	9 3/8	8 1/2	10 1/4	9 3/4	11 1/2	7	14 1/8	4 5/32	15 15/16	9 7/8	6 1/32	1 1/2	5 5/32	5 3/4	5 1/8	3 13/16	3/8
9	15 5/8	1 3/16	256	8 11/16	11 7/8	10 3/4	13	12 3/16	15 1/2	9	18 1/8	5 3/32	24 27/32	16 3/4	7 11/16	2	7	10 5/8	6 7/8	4 15/16	1/2
11	19 1/8	1 7/16	182-184	10 5/8	14 7/16	13 1/16	15 13/16	14 1/2	15 1/2	11	19 3/8	8	17 19/32	16 3/4	9 5/16	2	7 13/16	10 5/8	6 7/8	6 1/16	1/2
13	22 5/8	1 7/16	213-215	12 5/8	17 1/16	15 7/16	18 11/16	16 15/16	15 1/2	13	25 5/8	9 7/32	26 19/32	18 1/16	11 1/16	2	6 21/32	11 7/8	6 7/8	7 3/16	1/2
15	26 1/8	1 15/16	254-256	14 1/2	19 9/16	17 11/16	21 7/16	19 3/8	15 1/2	15	26 5/16	10 1/8	27 7/16	18 1/16	12 3/4	2	7 1/2	11 7/8	6 7/8	8 5/16	1/2
17	29 5/8	1 15/16	254-256	16 7/16	22 1/16	19 15/16	24 3/16	21 3/4	15 1/2	17	28 3/8	11 1/16	28 1/4	18 1/16	14 3/8	2	8 5/16	11 7/8	6 7/8	9 3/8	1/2

FAN SIZE	AA	BB	CC	DD	EE	FF	GG	HH	JJ	KK	LL	MM	SPECIAL FEATURES							
5	14 15/16	18 7/16	17 29/32	18 1/8	15 1/8	18 7/8	14 1/2	22 5/32	19 11/16	19 3/8	19 1/16	18 3/4	A = PUNCHED FLANGED INLET # 69-0-3 B = PUNCHED FLANGED OUTLET # 69-0-3 C = CLEAN-OUT DOOR-QUICK CLAMP # 69-0-3 D = DRAIN OPENING # 69-0-3 E = SHAFT SEAL F = TYPE "C" SPARK RESISTANT CONSTRUCTION G = INLET SCREEN H = LINT FREE CONSTRUCTION J = OUTLET DAMPER # 69-0-6							
6	17 9/16	20 1/2	21 5/32	20 1/8	17 7/8	20 15/16	17 1/8	24 29/32	22	21 5/8	21 1/4	20 7/8								
7	20	23 1/2	24 7/32	23 1/16	20 1/2	23 7/8	19 5/8	28 17/32	25 1/4	24 13/16	24 3/8	23 15/16								
9	25 3/16	30	30 11/16	29 7/16	26	30 5/16	24 7/8	36 3/8	32 1/4	31 11/16	31 1/8	30 9/16								
11	30 5/16	33 13/16	37 3/16	33 1/8	31 5/8	33 7/8	30 1/4	41 7/16	36 9/16	35 7/8	35 3/16	34 1/2								
13	35 5/8	42 11/16	43 7/8	41 7/8	37 3/8	42 9/16	35 3/8	51 5/8	45 15/16	45 1/8	44 5/16	43 1/2								
15	40 13/16	45 7/8	50 11/32	44 15/16	42 7/8	45 11/16	41	56 5/32	49 5/8	48 11/16	47 3/4	46 13/16								
17	45 15/16	50 7/16	56 3/4	49 3/8	48 3/8	50 1/8	46 1/4	62	54 11/16	53 5/8	52 9/16	51 1/2								

ITEM NO.	IDENTIFICATION	NO. REQD.	FAN SIZE	FIG. NO.	PERFORMANCE							MOTOR DATA					SPECIAL FEATURES
					CFM	O.V.	SP	R.P.M.	TEMP.	BHP	ELEV.	HP	RPM	CURRENT	FRAME	TYPE	

NOTES:

- A. * K DIMENSION IS APPROXIMATE VALUE BASED UPON MAXIMUM MOTOR FRAME AND TEFC MOTORS.
 B. REFER TO ORDER ACKNOWLEDGEMENT FOR SHIPPING DETAILS

* "Q" DIM. WILL INCREASE BY 1/8" IF TYPE "C" SPARK RESISTANT IS FURNISHED.

CUSTOMER _____

P.O.# _____

JOB NAME _____

LOCATION _____



SERIES 6000 DESIGN 6900
 ARRANGEMENT 4 SISW

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DRAWING CERTIFIED BY S.E. APPROVAL -NOT REQUIRED-RELEASED FOR PRODUCTION	DATE	ENGINEER	DWG#