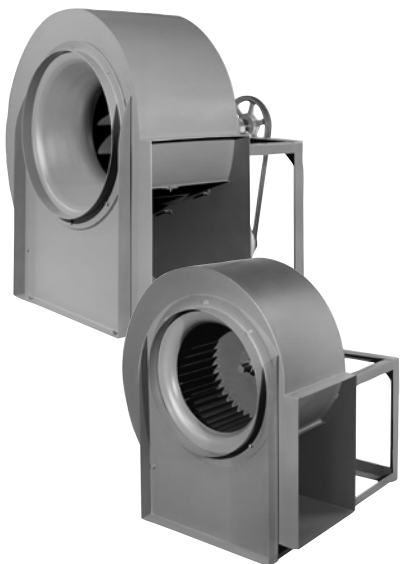


# MODELS B & FCB

## BELT DRIVEN UTILITY VENT SETS



### MODEL FEATURES

- Exhaust air to over 32,000 CFM with static pressure capabilities up to 8.5" w.g.
- Belt drives permit easy performance adjustments when needed
- Backward inclined or forward curved type wheels
- Airtight all welded construction
- Rotatable to 8 discharge orientations
- AMCA Seal for Air Performance
- cULus 705 and 762 Listings available

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### MODEL OPTIONS

MODEL NAME	TYPICAL APPLICATIONS	
<b>B</b>	Backward Inclined wheels	page 33
<b>FCB</b>	Forward Curved Wheel	page 49

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### MODEL OVERVIEW

ULTRAFAN-PAK fan wheels are the versatile, quiet, energy efficient backward inclined and forward curved type. Models B (backward inclined) and FCB (forward curved) utility sets are the best selection for many industrial, commercial and institutional projects. Typical applications include hood exhaust, welding fume exhaust and flammable gas exhaust. Ventilation of theaters, restaurants, stores, hotels, kitchens, gymnasiums, laundry rooms, lavatories and locker rooms are other common applications for utility sets.

ULTRAFAN-PAK fans by S&P are available in 13 sizes with wheel diameters from 7-3/4" through 36-1/2". Wheel diameters are readily recognized from the model number. For example Model B 10 has a 10-1/2" diameter wheel and Model B 330 has a 33" diameter wheel. ULTRAFAN-PAK Class I fans deliver up to 26,000 cubic feet of air per minute (CFM) at static pressures (SP) up to 5" W.G. Class II fans deliver up to 32,000 CFM at SP up to 8.5" W.G.

For small or medium size general ventilation applications ULTRAFAN-PAK utility sets are the ideal choice. These easy to select, easy to install fans come prepackaged from the factory. Each self-contained unit includes the motor and adjustable drive as well as the fan assembly.

**1 year fan housing warranty, 1 year motor warranty**



## CONSTRUCTION/SPECIFICATIONS

### Wheels

Flat Blade Wheel—backwardly inclined non-overloading wheels standard on sizes 105 thru 245.

Airfoil Wheel—backward curved airfoil wheels standard on sizes 270 thru 365. All wheels are statically and dynamically balanced.

### Inlet

Circular stamped ring. Rigid streamlined inlet.

### Frame

All welded steel construction. Easy access to motor for servicing.

### Housing

All are convertible and may be rotated easily to any of eight 45° positions.

### Motor Base

Heavy construction assures sturdy base for motor mounting and features easy adjustment for belt tension.

### Bearings

Self-aligning ball bearing pillow blocks. These bearings are designed to operate under the most severe atmospheric conditions.

### Shaft

Ground and polished solid steel key-wayed on each end.

### Motor

Commercial standard Fan and Blower duty motors are job-matched to each requirement. All types of current characteristics, enclosures and bearing construction are available. Adjustable V-Belt Drive High quality CAST Iron adjustable pitch motor sheaves are standard equipment. V-Belts with ample service factor are also employed. When performance data is specified, the blowers are factory set to exact blower speed to meet job requirements. Constant speed drives are also available.

## Material Specifications Class 1 & 2

FAN SIZE	WHEEL DIAMETER	SHAFT DIAMETER		HOUSING GAUGES		NO. OF BLADES	WHEEL GAUGES				FRAME GAUGES	
		CLASS 1	CLASS 2	BAND	FACE		NO. OF BLADES	BLADES			DRIVE	INLET
								BACK PLATE	CLASS 1	CLASS 2		
105	10 <sup>1/2</sup>	3/4	1	20	16	12	10	12	10	14	16	—
122	12 <sup>1/4</sup>	1	1 <sup>3/16</sup>	16	16	12	3/16	12	3/16	14	14	16
135	13 <sup>1/2</sup>	1	1 <sup>3/16</sup>	16	14	12	3/16	12	3/16	14	14	16
150	15	1	1 <sup>3/16</sup>	16	14	12	3/16	12	3/16	14	14	16
165	16 <sup>1/2</sup>	1	1 <sup>3/16</sup>	16	14	12	3/16	10	3/16	14	14	16
182	18 <sup>1/4</sup>	13/16	1 <sup>7/16</sup>	16	14	12	3/16	10	3/16	14	14	14
200	20	13/16	1 <sup>7/16</sup>	14	14	12	3/16	3/16	3/16	14	12	14
222	22 <sup>1/4</sup>	13/16	1 <sup>11/16</sup>	14	12	12	3/16	3/16	10	14	12	14
245	24 <sup>1/2</sup>	17/16	1 <sup>11/16</sup>	14	12	12	3/16	3/16	10	14	12	12
270	27	17/16	1 <sup>11/16</sup>	14	12	11	3/16	16	16	14	12	12
300	30	1 <sup>11/16</sup>	1 <sup>11/16</sup>	14	12	11	3/16	16	16	14	12	12
330	33	1 <sup>11/16</sup>	1 <sup>11/16</sup>	14	12	11	1/4	16	16	14	10	10
365	36 <sup>1/2</sup>	1 <sup>11/16</sup>	2 <sup>3/16</sup>	12	10	11	1/4	16	16	14	10	10



















MODEL B  
BELT DRIVEN UTILITY VENT SET-BACKWARD INCLINED



Performance B-222

TIP SPEED (FPM) = 5.825 x RPM

OUTLET { 2.827 Sq. Ft. Inside  
24" x 173/8" Outside

MAX. HP = 1.8739 (RPM/1000)^3

WHEEL DIAMETER—22 1/4"

INLET { 3.015 Sq. Ft. Inside  
237/8" Dia. Outside

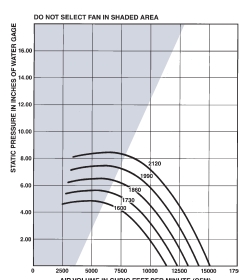
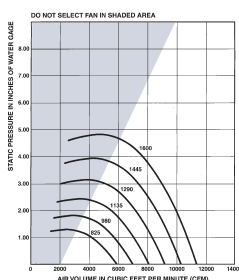
MAX. RPM  
CL.1 1661  
CL.2 2166

Table with columns: VOL. CFM, OUTLET VEL. FPM, 25 S.P., 5 S.P., .75 S.P., 1 S.P., 1.25 S.P., 1.5 S.P., 2 S.P., 2.5 S.P., 3 S.P., 3.5 S.P. and rows of performance data.

Table with columns: VOL. CFM, OUTLET VEL. FPM, 4 S.P., 4.5 S.P., 5 S.P., 5.5 S.P., 6 S.P., 6.5 S.P., 7 S.P., 7.5 S.P., 8 S.P., 8.5 S.P. and rows of performance data.

Performance shown is for installation type B—Free inlet, Ducted outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Data in bold face indicates quietest and most efficient performance.

- Class I Blowers
Class II Blowers











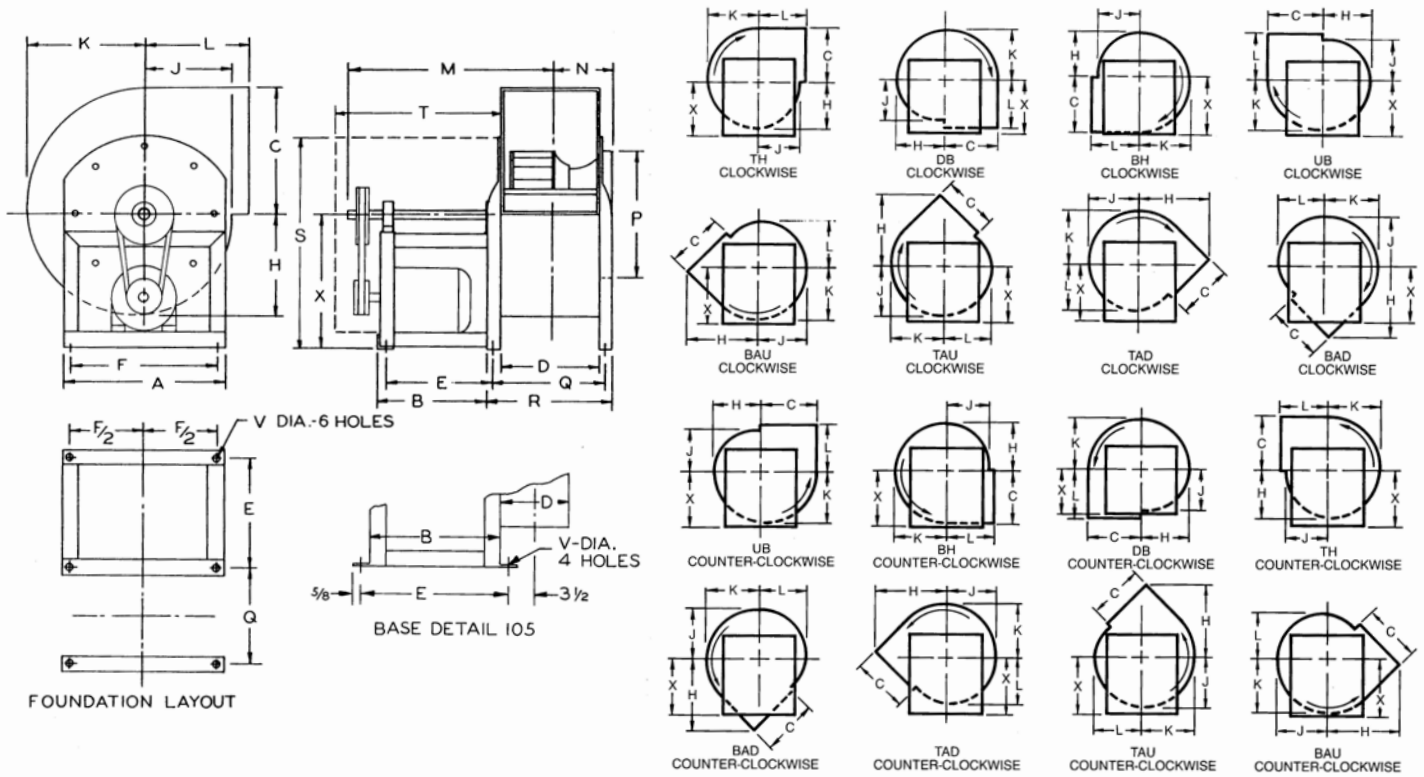




**MODEL B**  
BELT DRIVEN UTILITY VENT SET-BACKWARD INCLINED



**Non-Overloading Belt Drive — Arrangement #10 — SWSI — Class 1**



SIZE	WHEEL DIA.	SHAFT DIA.	A	B	C*	D	E	F	TH, DB, BH, UB STRAIGHT DISCHARGE				BAU, TAU, TAD, BAD ANGULAR DISCHARGE			
									H	J	K	L	H	J	K	L
105	10 1/2	3/4	12 7/8	13	11 3/4	8	14 1/4	10 3/4	7 7/8	6 3/4	9 1/8	8 1/16	13 1/4	8 7/8	9 5/8	7 1/8
122	12 1/4	1	16 3/8	13 1/2	13 1/4	9 5/8	13 1/2	14 3/4	10 1/8	8 1/2	11 1/2	10 1/2	16 5/8	10 3/4	12 1/2	9 1/8
135	13 1/2	1	17 5/8	13 1/2	14 5/8	10 3/4	13 1/2	16	11 1/8	9 3/8	12 5/8	11 3/8	18 1/4	11 7/8	13 3/4	10
150	15	1	19 1/4	15 1/2	16 1/4	11 3/4	15 1/2	17 5/8	12 3/8	10 3/8	14 1/8	12 3/8	20 1/8	13 1/4	15 1/4	11 1/8
165	16 1/2	1	21 3/8	15	17 3/4	13	15 1/2	19 3/4	13 5/8	11 3/8	15 1/2	13 3/8	21 7/8	14 5/8	16 3/4	12 1/4
182	18 1/4	1 3/16	23 1/8	17	19 5/8	14 1/4	17 1/2	21 1/2	15	12 5/8	17 1/8	14 5/8	24 1/8	16	18 1/2	13 5/8
200	20	1 3/16	25	17	21 1/2	15 7/8	17	23 3/8	16 1/2	13 3/4	18 3/4	15 3/4	26 3/8	17 5/8	20 3/8	14 7/8
222	22 1/4	1 3/16	27 3/8	16 1/2	24	17 3/8	17	25 3/4	18 1/4	15 1/4	20 7/8	17 1/4	29	19 1/2	22 5/8	16 1/2
245	24 1/2	1 7/16	30 1/4	16 1/2	26 1/4	19 1/4	16 3/4	23 5/8	20 1/8	16 7/8	23	19 7/8	32 1/2	21 1/2	24 7/8	18 1/4
270	27	1 7/16	33	16 1/2	29	21 1/4	16 1/2	26 1/4	22 1/8	18 1/2	25 1/4	21 1/2	35 3/8	23 5/8	27 3/8	20
300	30	1 11/16	36 1/4	16 1/2	32 1/4	23 3/8	16 1/2	29 1/2	24 5/8	20 1/2	28 1/8	23 5/8	39 3/8	26 3/8	30 1/2	22 1/2
330	33	1 11/16	39 1/2	21 3/8	35 3/8	25 7/8	21 5/8	33 1/8	27 1/8	22 1/2	30 7/8	25 5/8	43	28 7/8	33 1/2	24 3/8
365	36 1/2	1 15/16	43 1/8	21 3/8	39 1/4	28 1/2	21 5/8	36 7/8	30	24 7/8	34 1/8	28	47 3/8	32	37 1/8	27

NOTE: Letters "C" and "D" are outside housing dimensions.  
\*C" dimension on 105 extends 11/16" beyond center-line.

SIZE	M	N	P	Q	R	S	T	V	X	MAX MOTOR FRAME
105	19 5/8	6	12 7/8	—	—	20 1/2	17	7/16	14	145T
122	23 7/8	6 3/8	13 1/4	11 1/4	12 3/4	25 1/4	20	1/2	17	182T
135	24 3/8	7	14 1/2	12 3/8	13 7/8	25 7/8	20	1/2	17	182T
150	26 7/8	7 1/2	16 1/8	13 3/8	14 7/8	27 5/8	22	1/2	17 7/8	182T
165	27 1/2	8 1/2	17 7/8	14 1/2	17	30 1/8	22	1/2	19 1/2	184T
182	30 5/8	9 1/8	19 5/8	15 3/4	18 1/4	33 3/8	25	1/2	21 7/8	184T
200	31 1/2	10	21 1/2	17 7/8	20 1/8	36 1/4	25	1/2	23 3/4	213T
222	32 3/4	10 5/8	23 7/8	19 3/8	22 5/8	39 3/4	26	1/2	26 1/8	213T
245	33 5/8	11 3/4	26 3/8	21 1/4	24 1/2	42 7/8	26	1/2	27 3/4	215T
270	34 5/8	12 5/8	29	23 3/4	26 1/2	47	26	1/2	30 1/2	215T
300	36	13 3/4	32 1/4	26	28 3/4	51 7/8	27	1/2	33 3/4	254T
330	41 3/8	15	35 3/8	28 3/8	31 1/8	58 1/2	30 3/8	7/8	38 3/8	254T
365	43 1/4	16 1/4	39	31	33 3/4	63 3/4	30 3/8	7/8	42 1/8	254T

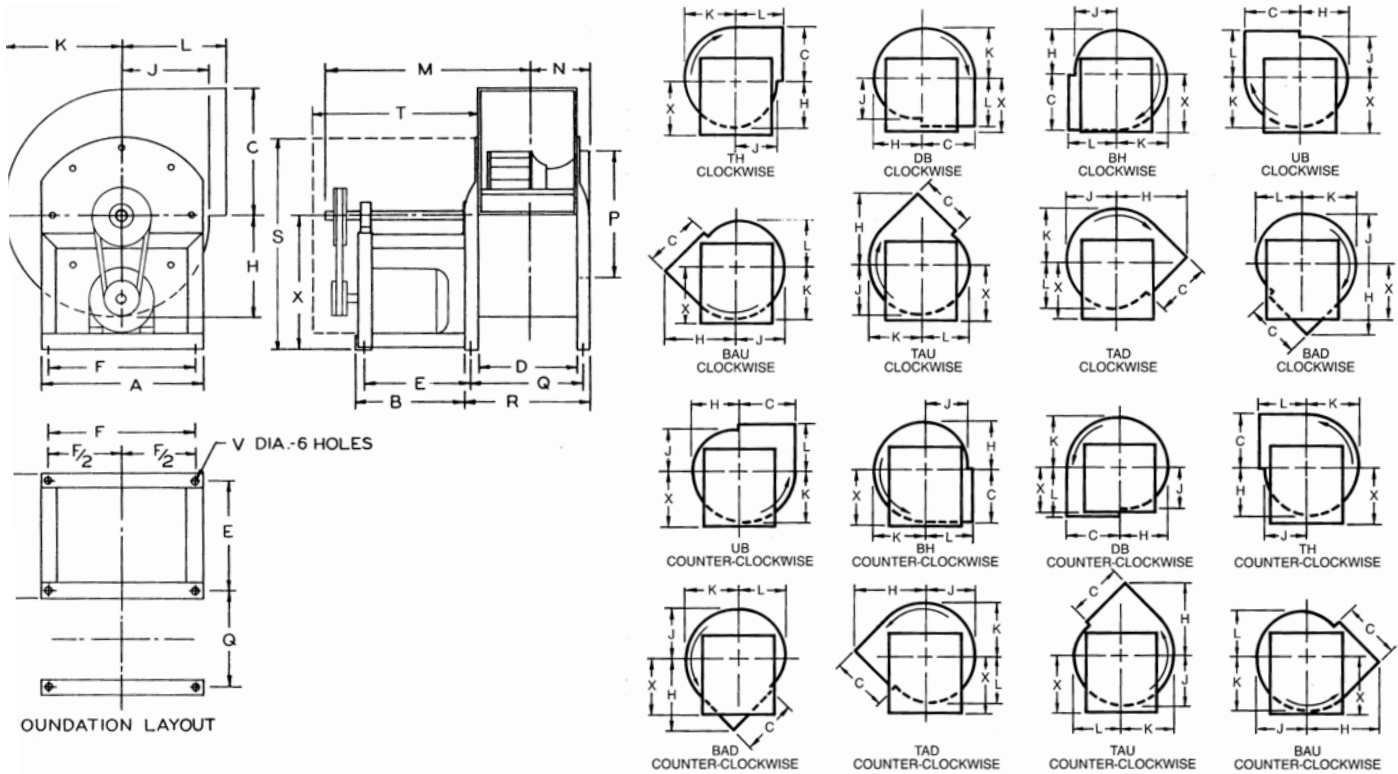
TEMPERATURE OPERATING LIMITS TEMPERATURE RPM DERATING FACTORS IN PERCENT:	
STEEL WHEEL	ALUMINUM WHEEL
300°F 100%	150°F 100%
301-400°F 96%	151-200°F 95%
401-500°F 92%	201-250°F 80%
501-600°F 85%	







**Non-Overloading Belt Drive — Arrangement #10 — SWSI — Class 2**



SIZE	WHEEL DIA.	SHAFT DIA.	A	B	C*	D	E	F	TH, DB, BH, UB STRAIGHT DISCHARGE				BAU, TAU, TAD, BAD ANGULAR DISCHARGE			
									H	J	K	L	H	J	K	L
105	10 1/2	1	16 3/8	15	11 3/4	8	13 1/2	14 3/4	7 7/8	6 3/4	9 1/8	8 1/16	13 1/4	8 7/8	9 5/8	7 1/8
122	12 1/4	1 3/16	16 3/8	15 1/2	13 1/4	9 5/8	15 1/2	14 3/4	10 1/8	8 1/2	11 1/2	10 1/2	16 5/8	10 3/4	12 1/2	9 1/8
135	13 1/2	1 3/16	17 5/8	15 1/2	14 5/8	10 3/4	15 1/2	16	11 1/8	9 3/8	12 5/8	11 3/8	18 1/4	11 7/8	13 3/4	10
150	15	1 3/16	19 1/4	15 1/2	16 1/4	11 3/4	15 1/2	17 5/8	12 3/8	10 3/8	14 1/8	12 3/8	20 1/8	13 1/4	15 1/4	11 1/8
165	16 1/2	1 3/16	21 3/8	21	17 3/4	13	21 1/2	19 3/4	13 5/8	11 3/8	15 1/2	13 3/8	21 7/8	14 5/8	16 3/4	12 1/4
182	18 1/4	1 7/16	23 3/8	21	19 5/8	14 1/4	21 1/2	21 1/2	15	12 5/8	17 1/8	14 5/8	24 1/8	16	18 1/2	13 5/8
200	20	1 7/16	25	21	21 1/2	15 7/8	21	23 3/8	16 1/2	13 3/4	18 3/4	15 3/4	26 3/8	17 5/8	20 3/8	14 7/8
222	22 1/4	1 11/16	27 3/8	22 1/2	24	17 3/8	23	25 3/4	18 1/4	15 1/4	20 7/8	17 1/4	29	19 1/2	22 5/8	16 1/2
245	24 1/2	1 11/16	30 1/4	22 1/2	26 1/4	19 1/4	22 3/4	23 5/8	20 1/8	16 7/8	23	19 7/8	32 1/2	21 1/2	24 7/8	18 1/4
270	27	1 11/16	33	21	29	21 1/4	21 1/8	26 1/4	22 1/8	18 1/2	25 1/4	21 1/2	35 3/8	23 5/8	27 3/8	20
300	30	1 15/16	36 1/4	23	32 1/4	23 3/8	23 1/8	29 1/2	24 5/8	20 1/2	28 1/8	23 5/8	39 3/8	26 3/8	30 1/2	22 1/2
330	33	1 15/16	39 1/2	23	35 3/8	25 7/8	23 1/4	33 1/8	27 1/8	22 1/2	30 7/8	25 5/8	43	28 7/8	33 1/2	24 3/8
365	36 1/2	2 3/16	43 1/8	23	39 1/4	28 1/2	23 1/4	36 7/8	30	24 7/8	34 1/8	28	47 3/8	32	37 1/8	27

NOTE: Letters "C" and "D" are outside housing dimensions.

\*"C" dimension on 105 extends 11/16" beyond center-line.

SIZE	M	N	P	Q	R	S	T	V	X	MAX MOTOR FRAME
105	22 3/8	6	12 7/8	—	—	25 1/4	20	1/2	17	128T
122	25 3/8	6 3/8	13 1/4	11 1/4	12 3/4	25 1/4	22	1/2	17	184T
135	25 7/8	7	14 1/2	12 3/8	13 7/8	25 7/8	22	1/2	17	184T
150	27	7 1/2	16 1/8	13 3/8	14 7/8	27 5/8	22	1/2	17 7/8	213T
165	34 1/8	8 1/2	17 7/8	14 1/2	17	30 5/8	29	1/2	19 1/2	254T
182	34 3/4	9 1/8	19 5/8	15 3/4	18 1/4	33 3/8	29	1/2	21 7/8	254T
200	35 5/8	10	21 1/2	17 7/8	20 1/8	36 1/4	29	1/2	23 3/4	254T
222	38 3/8	10 5/8	23 7/8	19 3/8	22 5/8	39 1/4	31 1/2	1/2	26 1/8	256T
245	40 1/2	11 3/4	26 3/8	21 1/4	24 1/2	42 7/8	33	1/2	27 3/4	284T
270	39 5/8	12 5/8	29	23 3/4	26 1/2	47	32	1/2	30 1/2	284T
300	42 5/8	13 3/4	32 1/4	26	28 3/4	51 7/8	33	1/2	33 3/4	286T
330	45	15	35 3/8	28 3/8	31 1/8	58 1/8	34	7/8	38 3/8	324T
365	46 1/4	16 1/4	39	31	33 3/4	63 3/4	34	7/8	42 1/8	234T

TEMPERATURE OPERATING LIMITS TEMPERATURE RPM DERATING FACTORS IN PERCENT:	
STEEL WHEEL	ALUMINUM WHEEL
300°F 100%	150°F 100%
301-400°F 96%	151-200°F 95%
401-500°F 92%	201-250°F 80%
501-600°F 85%	

