



**Bulletin ESI05**



## **EFFICIENT SILENT INLINE FANS**

Model: ESI  
Industrial and Commercial Fans  
Mixed Flow Belt Drive

*MOVING YOUR WAY*

## CERTIFIED RATINGS

### AMCA Certification



PennBarry certifies that the ESI fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

### UL Certification

Mixed-Flow Model ESI will carry the cUL mark for the following:



- UL705 Power Ventilators (ZACT, ZACT7): File #E256857
- UL762 Power Ventilators for Restaurant Exhaust Appliances (YZHW): File #MH10147 (UL Only)
- UL Power Ventilators for Smoke Control Systems (ZAXH, ZAXH7): File #MH10148

## FANSIZER®

### Product Selection Software

FanSizer software allows you to select the best centrifugal or axial unit for your application. Input CFM and static pressure, and FanSizer will make the optimum selection. It allows you to complete job schedules which you can store, modify and print in seconds. Features include: on-line help, on-screen product drawings and dimensions, and complete text specifications. In addition, you can convert job schedules to ASCII code for use with other programs like word processing.

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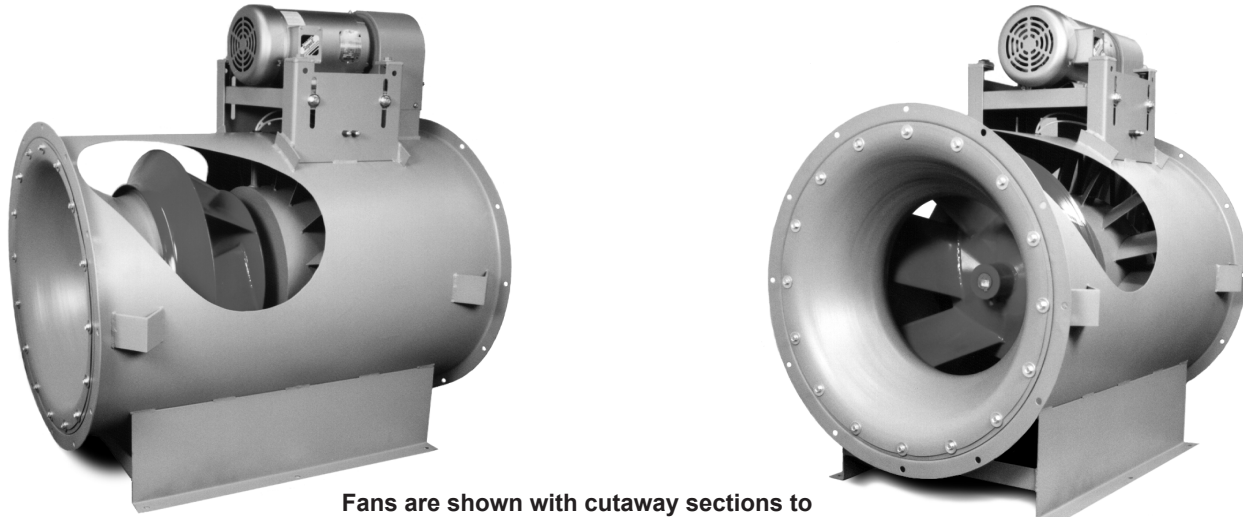
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US Patent #5810557 | Canadian Patent #2260998

Following publication of this catalog changes may have been made in standard equipment, options and the like that would not be included. We reserve the right to make changes at any time, without notice, to models, specifications, options, availability, etc. This bulletin illustrates the appearance of PennBarry products at the time of publication and we reserve the right to make changes in design and construction at anytime without notice. Your local sales representative is the best source for current information.

# General Information

## ESI - Efficient Silent Inline Fan



Fans are shown with cutaway sections to reveal interior and wheel. Actual fan models have totally enclosed sides.

The PennBarry ESI, Efficient Silent Inline fan, is a revolution in the fan industry. Its patented design, combines the compact, high volume advantages of axial fans with the low sound, high efficiency of tubular centrifugal fans. The outstanding air and sound performance of this fan set it apart from the competition. Its versatility allows it to compete with any vane axial, mixed flow, or tubular centrifugal fan. With the ESI Inline fan, PennBarry brings its innovation to market and sets a new standard for performance.

### Efficient

The innovative wheel of the ESI discharges air at an angle from the inlet, instead of perpendicularly. This gives the fan a much higher efficiency. A significant result is the broad peak efficiency curve that allows for using smaller fans without sacrificing sound levels or horsepower. Since the high volume to fan size ratio allows for smaller fans than other fan types (Table 1), the ESI is also ideal for replacement and retrofit projects.

Because of the high efficiency, the wheel can rotate more slowly. The low speed wheel gives the bearings over 120,000 hours L10 (minimum) life for Class II fans. This is three times



the typical bearing life of other axial or centrifugal inline fans. The L10 bearing life on Class I fans is 40,000 hours.

### Air Performance & Sound

The outstanding air and sound performance of this fan allows it to outperform a wide range of competitors, including axial, inline centrifugal, and mixed flow fans.

### Silent

Since the most efficient fan is also the quietest, the ESI Inline Fan excels in both measures. Because it does not sacrifice the high volume advantages of axial fans, the ESI can also take advantage of the high efficiency and low sound of tubular centrifugal fans. You get the best of both.

Basically, you get more CFM for the money without a large penalty in noise. The combination of low speed, low horsepower, low sound, extra long bearing life, and high efficiency makes the ESI Inline fan the best selection for low, medium or high static pressure inline requirements.

ESI Inline fans can be mounted horizontally or vertically. They handle CFM ranging from 1,300 - 155,000 and static pressure up to 7" W.G.

**Table 1**  
**Air Performance & Sound Comparison**  
**CFM: 16,000 SP: 2.5**

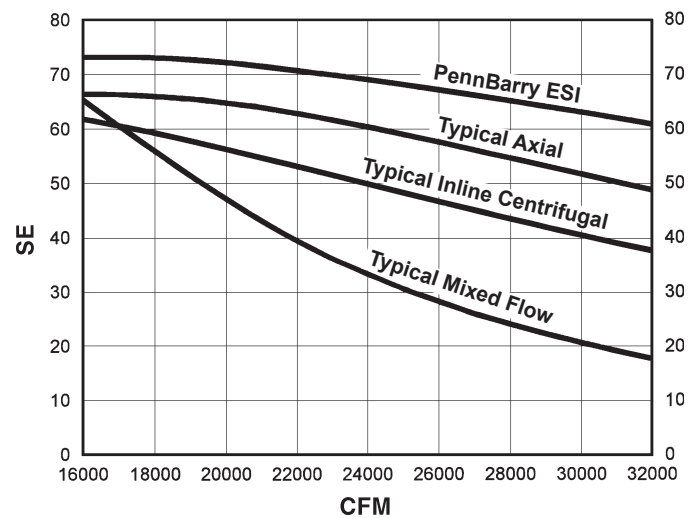
Product Type	Size	RPM	BHP	SE	OV	Octave Band								LwA
						1	2	3	4	5	6	7	8	
PennBarry ESI	365	769	8.60	73.2	1208	86	88	84	84	84	82	76	69	88
	330	909	8.69	72.4	1476	84	89	84	84	84	82	77	70	88
	300	1091	9.10	69.2	1795	83	91	84	84	84	83	78	72	89
Typical Axial	36	1178	9.46	66.5	2232	92	96	101	100	93	87	83	79	100
	32	1472	9.71	64.8	2820	92	92	92	91	88	84	80	76	93
	28	1950	10.91	57.6	3675	93	92	92	92	89	85	82	78	94
Typical Inline Centrifugal	365	903	10.20	61.9	1160	91	96	85	81	80	77	74	72	86
	330	1101	11.10	57.0	1420	91	98	90	83	82	79	75	73	89
	300	1406	13.70	46.0	1719	94	97	96	91	87	84	80	77	94
Typical Mixed Flow	44	870	10.10	62.3	1510	82	88	93	92	90	88	85	83	95
	39	1089	10.85	58.0	1893	81	87	95	95	92	93	88	85	99

### Static Efficiency

The static efficiency comparison table (Figure 1) graphically illustrates the advantage of the ESI design as airflow increases. While other fan types are efficient at the “peak” of the fan curve, the ESI design maintains a very high static efficiency across a broad volume range.

For example, comparing performance at a static pressure of 2.5" W.G., a 365 ESI fan operating at 16,000 CFM has a static efficiency of 73.2%. The same fan has a static efficiency of 60.8% at 32,000 CFM. A typical mixed flow fan size 44 has a peak static efficiency of 65.4% at 16,000 CFM. However, as the volume increases to 32,000 CFM, the efficiency drops off to 17.7%.

**Figure 1**  
**Static Efficiency Comparison**



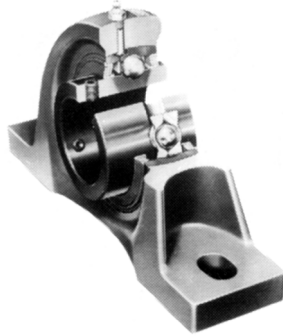
# Options and Accessories

ESI - Efficient Silent Inline Fan

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## Split Housed Bearings

Extra heavy duty roller bearings with split housings for easy maintenance are available. Bearings have an L-10 life of 40,000 hours for Class I and L-10 life of 120,000 hours for Class II.



Single Row  
Ball Bearing

## Companion Flanges

Provided as an accessory to accommodate slip connections at the inlet or discharge when required.

## Ceiling Brackets

Structural angles welded to the fan casing are provided to accommodate rod hangers where the fan is intended to be ceiling suspended.

## Access Doors

Located over the wheel, position is determined by installation requirements. Doors are quick-opening hinged type. All hardware is cadmium plated to resist corrosion.

## Variable Inlet Vanes

Externally mounted inlet vanes and inlet vanes that are "nested" inside the inlet cone are available as accessories. Suitable for manual or motorized operation. Constructed with stainless steel rods and friction-free bearings to assure smooth and vibration-free performance.

## Weather Cover

Provided with ventilation slots, affording complete weatherproof protection of motor and drive for outdoor installation.

## Lifting Lugs

These are a standard accessory on all PennBarry ESI Inline fans, provided for convenience and ease in handling during installation.

## Totally Enclosed Belt Guard

Protective cover surrounding the moving parts, provided for personnel safety, are a standard accessory for ESI fans. Available with tachometer opening where specified.

## High Temperature Package

Standard units without a weather cover are suitable for airstream temperatures up to 200°F. Standard units with a weather cover are suitable for airstream temperatures up to 150°F. Consult factory for applications with elevated temperatures, including UL Smoke Control Systems.

## Spark Resistant Construction

Type B and C are both available in accordance with AMCA specifications. Type B includes an aluminum wheel and nonferrous rub ring. Type C fans have steel wheels but are constructed with aluminum inlet cones and rub rings so that a shift in the wheel will not allow two ferrous parts to strike.

## Additional Options:

- Shaft Seals
- Vibration Isolators
- Drains
- Inlet and/or Discharge Screens
- Special Paints or Coatings
- Special Metals such as Stainless Steel or Aluminum

## Fan Arrangements

### Arrangement 9

Arrangement 9 fans are the most versatile type of inline fan. They can be horizontal base mounted, horizontal ceiling hung or vertically mounted. The motor is mounted on the fan housing, out of the airstream. Vertical units are constructed with reinforcing end brackets for either floor or ceiling mounting.

Base mounted Arrangement 9 ESI Inline fans are available in sizes 150 through 730. Ceiling hung fans and vertical mounted fans are available from size 150 through 660.

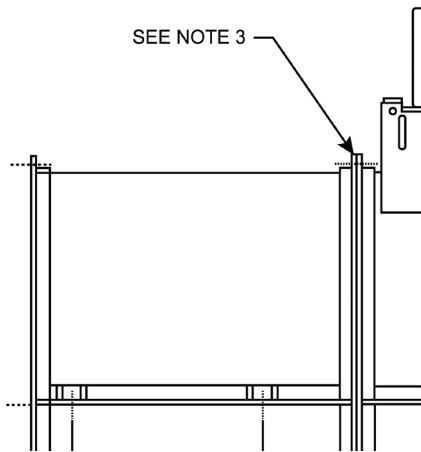
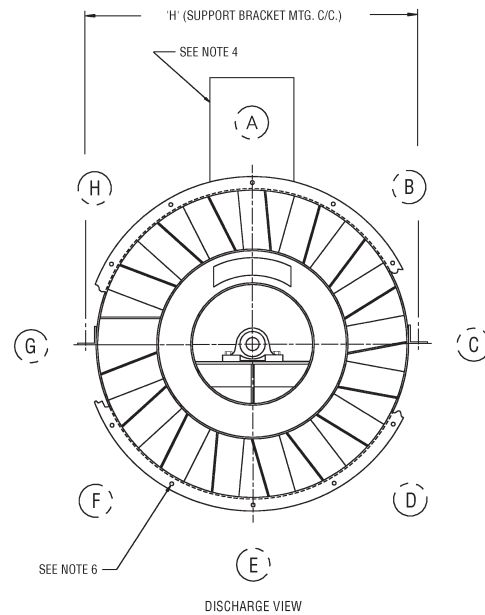
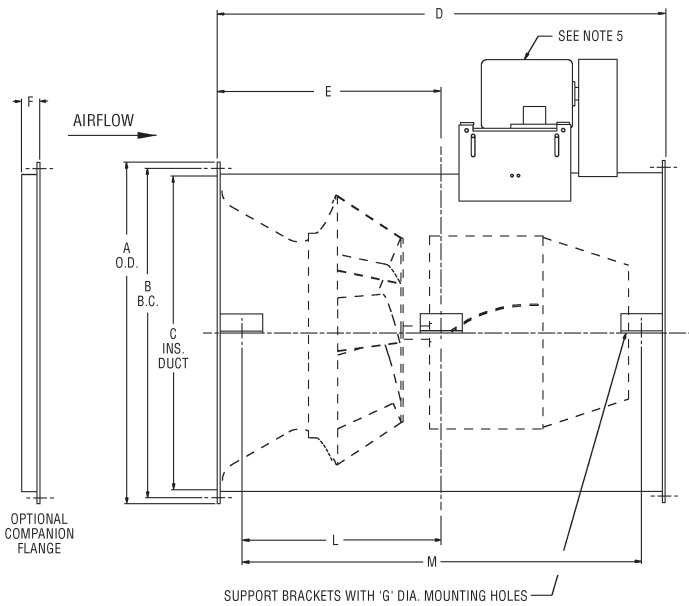


The following available fan arrangements are shown on the next four pages.

- Horizontal Ceiling Hung Fan - Arrangement 9, Class I & II
- Horizontal Base Mounted Fan - Arrangement 9, Class I & II
- Vertical Mounted Fan - Arrangement 9, Class II
- Vertical Roof Mounted Fan - Arrangement 9, Class II

# ESI Fan Data

## Horizontal Ceiling Hung - Arrangement 9, Class I & II



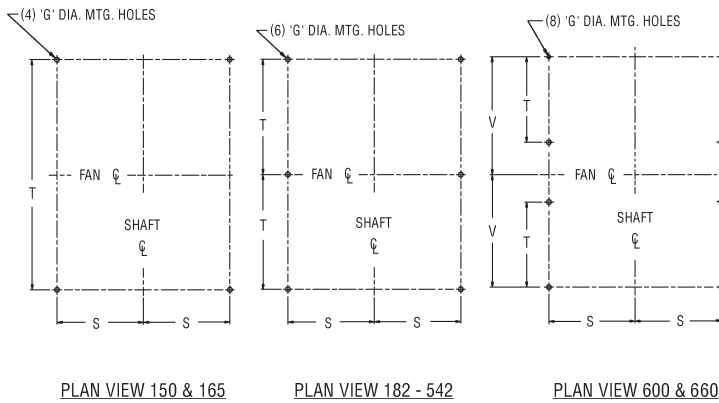
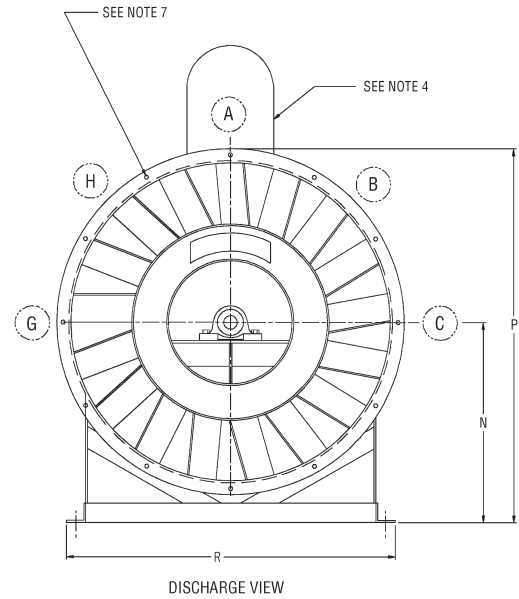
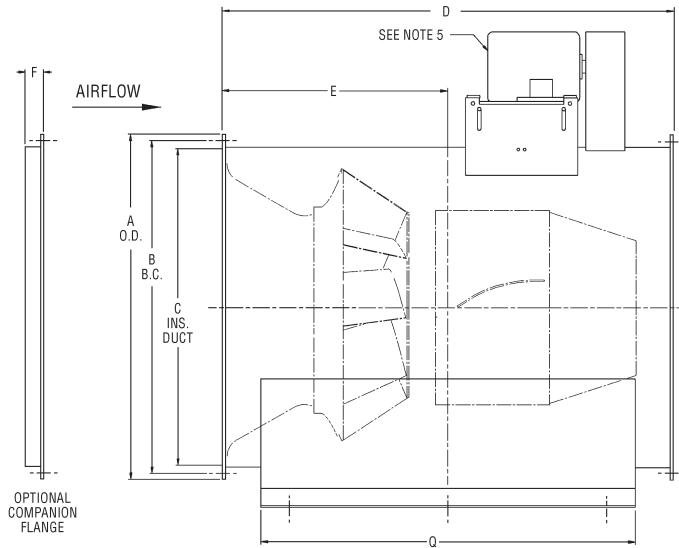
### Notes:

1. All units equipped with "J" diameter shaft and bearings.
2. All units equipped with adjustable motor base.
3. Size 600 and up are split into front and rear sections.
4. Belt guard is standard on all sizes.
5. Motor is shown at position A.
6. For size 730 contact factory.
7. Fan duct mounting holes:  
 150 - 165 = (8) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 182 - 270 = (12) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 300 - 365 = (16) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 402 - 445 = (16) 13/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 490 - 660 = (24) 13/16 dia. holes equally spaced about a "B" dia. bolt circle.
8. Dimensions should not be used for construction. Certified drawings are available upon request.

SIZE	A	B	C	D	E	F	G	H	J SHAFT DIA.		L	M	MAX. MOTOR FRAME
									Class I	Class II			
150	23	22	20 1/4	29 5/16	14 11/16	1 1/4	9/16	22 3/4	—	1 7/16	—	27 1/16	215T
165	25	24	22 5/16	31 3/4	15 7/8	1 1/4	9/16	24 3/4	—	1 7/16	—	29 1/2	215T
182	28	26 3/4	24 11/16	35 7/8	17 15/16	1 1/2	9/16	27 1/8	1 3/16	1 7/16	—	33 5/8	286T
200	30 5/16	29 1/8	27 1/16	39 3/16	19 5/8	1 1/2	9/16	30	1 7/16	1 11/16	—	36 7/16	286T
222	33 3/8	32 1/8	30 1/16	43 1/8	21 9/16	1 1/2	9/16	33	1 7/16	1 11/16	—	40 3/8	326T
245	36 3/8	35 1/8	33 1/8	47 7/8	23 15/16	1 1/2	13/16	36 1/16	1 7/16	1 11/16	—	45 1/8	326T
270	39 3/4	38 1/2	36 1/2	52 9/16	26 1/4	1 1/2	13/16	39 7/16	1 11/16	1 15/16	—	49 13/16	326T
300	44 7/8	43 1/8	40 9/16	57 3/4	28 7/8	2	13/16	43 9/16	1 15/16	2 3/16	—	54 15/16	365T
330	49	47 1/4	44 5/8	63 3/4	31 7/8	2	13/16	47 5/8	2 3/16	2 3/16	—	60 15/16	365T
365	53 3/4	52	49 3/8	70 1/2	35 1/4	2	13/16	52 3/8	2 3/16	2 7/16	—	67 11/16	365T
402	59 11/16	57 1/2	54 3/8	77 1/8	38 9/16	2 1/2	13/16	57 7/8	2 3/16	2 11/16	34 9/16	69 1/8	365T
445	65 1/2	63 1/4	60 3/16	86	43	2 1/2	13/16	63 11/16	2 7/16	2 11/16	39	78	365T
490	71 5/8	69 3/8	66 1/4	94 3/4	47 3/8	2 1/2	13/16	69 3/4	2 15/16	3 7/16	43 3/8	86 3/4	365T
542	79 3/4	77	73 3/8	104 3/8	52 3/16	3	1	76 7/8	—	3 15/16	31 3/4	—	405T
600	87 1/2	84 3/4	81 3/16	115 3/8	57 11/16	3	1	84 11/16	—	4 7/16	33 9/16	—	405T
660	95 5/8	92 7/8	89 5/16	127 3/8	63 11/16	3	1	92 13/16	—	4 7/16	37 1/8	—	405T

# ESI Fan Data

## Horizontal Base Mounted - Arrangement 9, Class I & II



### Notes:

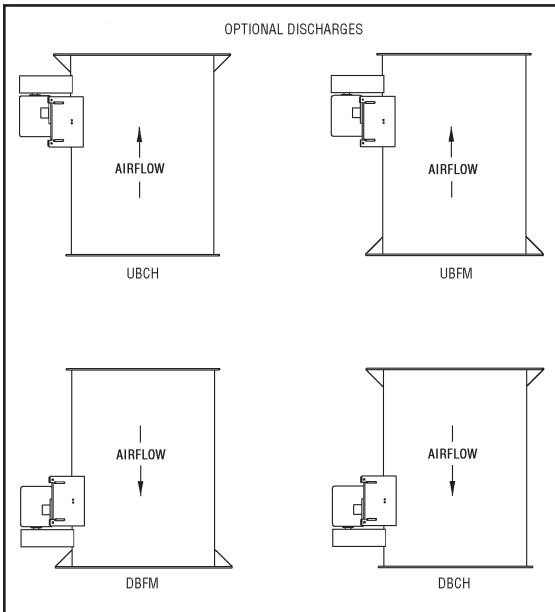
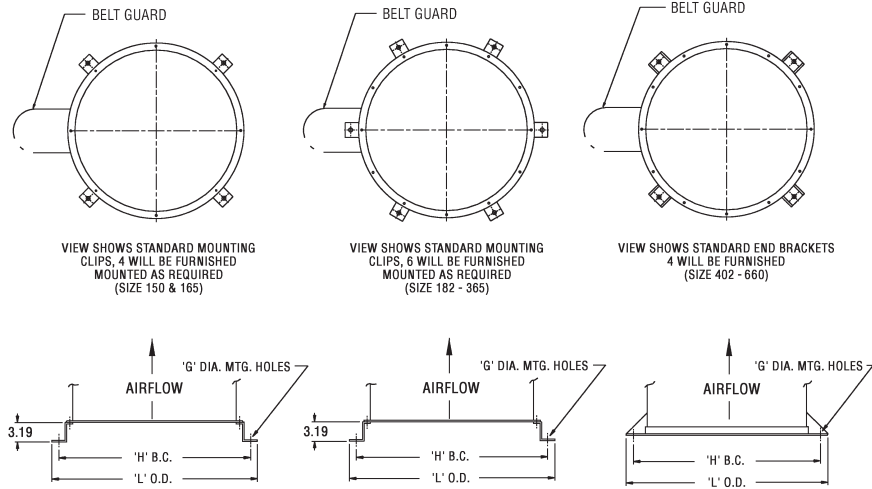
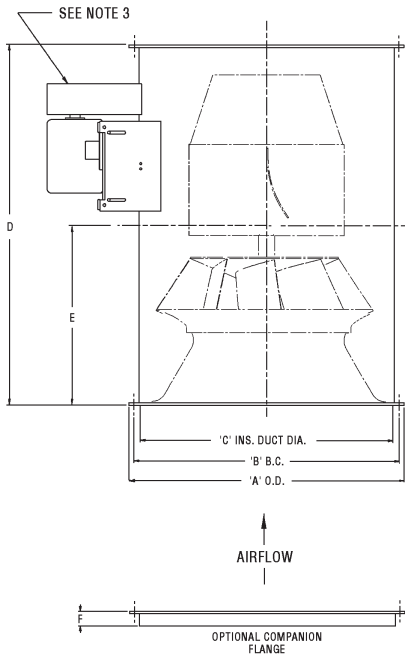
- All units equipped with "J" diameter shaft and bearings.
- All units equipped with adjustable motor base.
- Size 600 and up are split into front and rear sections.
- Belt guard is standard on all sizes.
- Motor is shown at position A.
- For size 730 contact factory.
- Fan duct mounting holes:  
 150 - 165 = (8) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 182 - 270 = (12) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 300 - 365 = (16) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 402 - 445 = (16) 13/16 dia. holes equally spaced about a "B" dia. bolt circle.  
 490 - 660 = (24) 13/16 dia. holes equally spaced about a "B" dia. bolt circle.
- Dimensions should not be used for construction. Certified drawings are available upon request.

SIZE	A	B	C	D	E	F	G	J SHAFT DIA.		N	P	Q	R	S	T	V	MAX. MOTOR FRAME
								Class I	Class II								
150	23	22	20 1/4	29 5/16	14 11/16	1 1/4	7/16	—	1 7/16	14	25 1/2	21 1/4	20	9 3/8	19 3/4	—	215T
165	25	24	22 5/16	31 3/4	15 7/8	1 1/4	7/16	—	1 7/16	15	27 1/2	24 1/4	22	10 3/8	22 3/4	—	215T
182	28	26 3/4	24 11/16	35 7/8	17 15/16	1 1/2	7/16	1 3/16	1 7/16	16	30	27	21 1/4	10	12 7/8	—	286T
200	30 5/16	29 1/8	27 1/16	39 3/16	19 5/8	1 1/2	9/16	1 7/16	1 11/16	18	33 1/8	30	23 3/4	11	14 1/8	—	286T
222	33 3/8	32 1/8	30 1/16	43 1/8	21 9/16	1 1/2	9/16	1 7/16	1 11/16	20	36 11/16	34	26 1/4	12 1/4	16 1/8	—	326T
245	36 3/8	35 1/8	33 1/8	47 7/8	23 15/16	1 1/2	9/16	1 7/16	1 11/16	21	39 3/16	38	28 3/4	13 1/2	18 1/8	—	326T
270	39 3/4	38 1/2	36 1/2	52 9/16	26 1/4	1 1/2	9/16	1 11/16	1 15/16	23	42 7/8	42	30 1/4	14 1/4	20 1/8	—	326T
300	44 7/8	43 1/8	40 9/16	57 3/4	28 7/8	2	9/16	1 15/16	2 3/16	25	47 7/16	47 1/2	35 1/8	16 11/16	22 7/8	—	365T
330	49	47 1/4	44 5/8	63 3/4	31 7/8	2	9/16	2 3/16	2 3/16	27	51 1/2	53	38 7/8	18 9/16	25 5/8	—	365T
365	53 3/4	52	49 3/8	70 1/2	35 1/4	2	9/16	2 3/16	2 7/16	29	55 7/8	59	42 5/8	20 7/16	28 5/8	—	365T
402	59 11/16	57 1/2	54 3/8	77 1/8	38 9/16	2 1/2	13/16	2 3/16	2 11/16	33	62 7/8	65 3/4	47 1/2	22 5/8	31 7/8	—	365T
445	65 1/2	63 1/4	60 3/16	86	43	2 1/2	13/16	2 7/16	2 11/16	36	68 3/4	73	52	24 7/8	35 3/8	—	365T
490	71 5/8	69 3/8	66 1/4	94 3/4	47 3/8	2 1/2	13/16	2 15/16	3 7/16	39	74 13/16	81	58	27 7/8	39 3/8	—	365T
542	79 3/4	77	73 3/8	104 3/8	52 3/16	3	13/16	—	3 15/16	43	82 7/8	88	67	32 1/8	39 1/2	—	405T
600	87 1/2	84 3/4	81 3/16	115 3/8	57 11/16	3	13/16	—	4 7/16	47	90 11/32	107 3/4	73	34 5/8	41	49 3/8	405T
660	95 5/8	92 7/8	89 5/16	127 3/8	63 11/16	3	13/16	—	4 7/16	52	99 13/16	119 3/4	81	38 5/8	47	55 3/8	405T



# ESI Fan Data

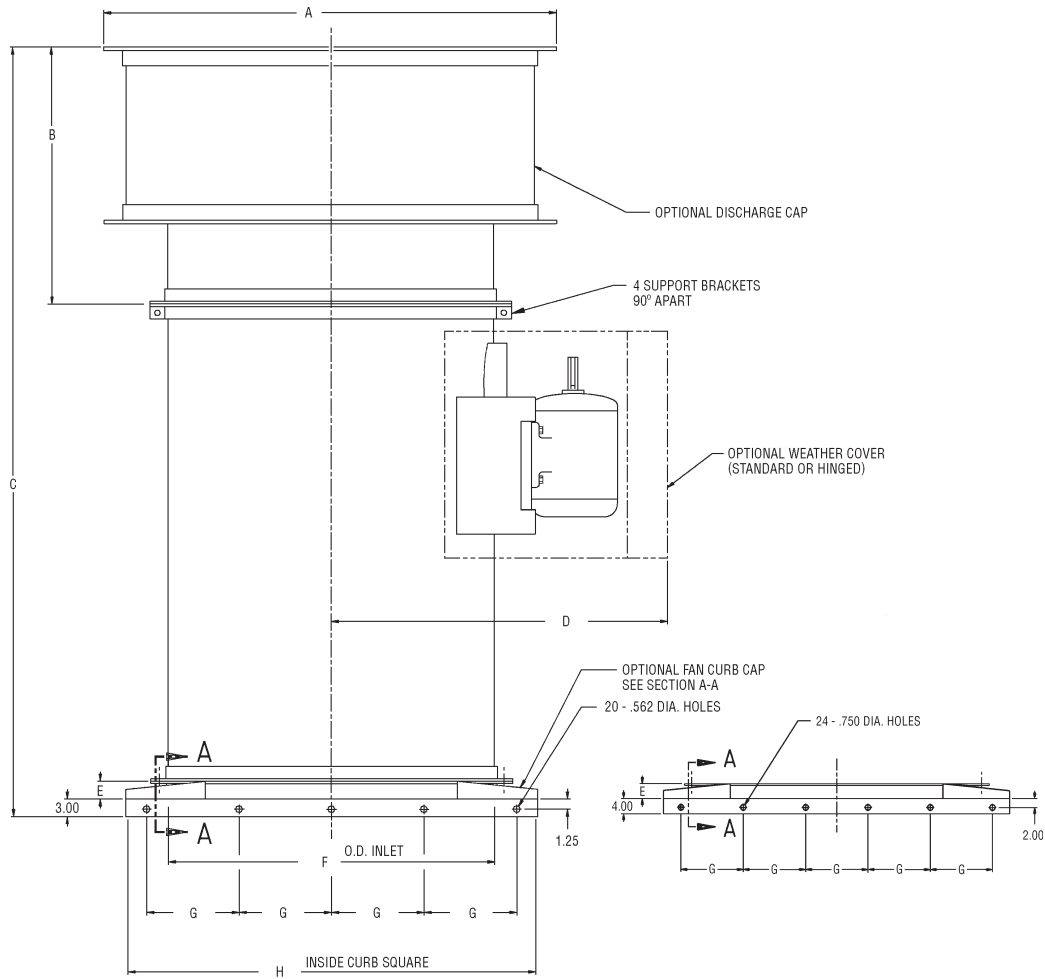
## Vertical Mounted - Arrangement 9, Class II



### Notes:

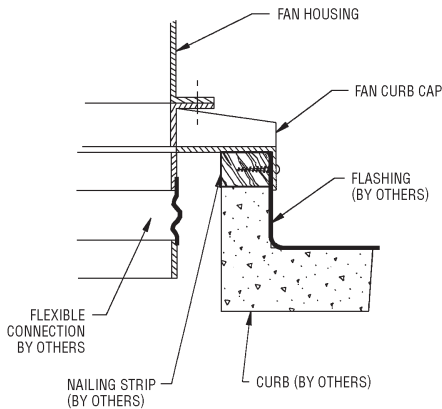
1. Upblast discharge shown. Downblast same but inverted.
2. All units equipped with "J" dia. shaft and bearings.
3. All units equipped with adjustable motor base.
4. Belt guard is standard on all sizes.
5. For size 730 contact factory.
6. Fan duct mounting holes:
  - 150 - 165 = (8) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.
  - 182 - 270 = (12) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.
  - 300 - 365 = (16) 9/16 dia. holes equally spaced about a "B" dia. bolt circle.
  - 402 - 445 = (16) 13/16 dia. holes equally spaced about a "B" dia. bolt circle.
  - 490 - 660 = (24) 13/16 dia. holes equally spaced about a "B" dia. bolt circle.
7. Dimensions should not be used for construction. Certified drawings are available upon request.

SIZE	A	B	C	D	E	F	G	H	J SHAFT DIA.	L	MAX. MOTOR FRAME
150	23	22	20 1/4	29 5/16	14 11/16	1 1/4	7/16	25 1/4	1 7/16	26 1/2	213T
165	25	24	22 5/16	31 3/4	15 7/8	1 1/2	7/16	27 3/16	1 7/16	28 11/16	213T
182	28	26 3/4	24 11/16	35 7/8	17 15/16	1 1/2	7/16	29 3/4	1 7/16	31	213T
200	30 5/16	29 1/8	27 1/16	39 3/16	19 5/8	1 1/2	7/16	33 11/16	1 11/16	35 7/16	215T
222	33 3/8	32 1/8	30 1/16	43 1/8	21 9/16	1 1/2	3/4	36 11/16	1 11/16	38 7/16	254T
245	36 3/8	35 1/8	33 1/8	47 7/8	23 15/16	1 1/2	3/4	39 5/8	1 11/16	41 3/8	254T
270	39 3/4	38 1/2	36 1/2	52 9/16	26 1/4	1 1/2	3/4	4 3/8	1 15/16	44 7/8	256T
300	44 7/8	43 1/8	40 9/16	57 3/4	28 7/8	2	3/4	47 3/8	2 3/16	49 1/8	256T
330	49	47 1/4	44 5/8	63 3/4	31 7/8	2	3/4	51 7/16	2 3/16	53 3/8	284T
365	53 3/4	52	49 3/8	70 1/2	35 1/4	2	3/4	56 3/16	2 11/16	57 15/16	286T
402	59 11/16	57 1/2	54 3/8	77 1/8	38 9/16	2 1/2	9/16	65 3/4	2 15/16	67 3/4	324T
445	65 1/2	63 1/2	60 3/16	86	43	2 1/2	9/16	71 1/2	3 7/16	73 1/2	324T
490	71 5/8	69 3/8	66 1/4	94 3/4	47 3/8	2 1/2	9/16	77 5/8	3 7/16	79 5/8	324T
542	79 3/4	77	73 3/8	104 3/8	52 3/16	3	13/16	84 5/8	3 15/16	86 5/8	326T
600	87 1/2	84 3/4	81 3/16	115 3/8	57 11/16	3	3/4	94 1/4	4 7/16	99 1/4	405T
660	95 5/8	92 7/8	89 5/16	127 3/8	63 11/16	3	3/4	102 1/2	4 7/16	107 1/2	405T



150 - 490 CURB CAP

542 - 660 CURB CAP



### SECTION A-A

Recommended Curb Construction

SIZE	A	B	C	D	E	F	G	H	MAX. MOTOR FRAME
150	28 5/8	20 1/4	54 1/16	30 3/8	1 1/4	20 3/4	5	30 3/8	213T
165	30 5/8	21 1/2	57 1/2	32 3/8	1 1/4	22 3/4	5	32 3/8	213T
182	33 5/8	22 1/2	62 7/8	33 3/4	1 1/2	25 3/16	6 1/2	34 7/8	213T
200	39 5/8	25 1/2	69 3/16	35 1/4	1 1/2	27 11/16	7 1/2	37 3/8	215T
222	39 5/8	25 1/2	73 1/8	38 3/4	1 1/2	30 11/16	8 1/2	40 3/8	254T
245	45 5/8	28 1/2	80 7/8	40 1/2	1 1/2	33 3/4	9	43 3/8	254T
270	51 5/8	28 1/2	85 9/16	42 1/4	1 1/2	37 1/8	10	46 3/4	256T
300	57 5/8	31	93 3/4	44 1/2	2	41 3/8	11	51	256T
330	63 5/8	34	102 3/4	47 1/2	2	45 7/16	12	55 1/8	284T
365	69 5/8	37	112 1/2	50	2	50 3/16	13	59 7/8	286T
402	75 5/8	40 1/2	123 1/8	55 1/2	2 1/2	55 3/16	14	64 7/8	324T
445	84 5/8	42 1/2	134	58 3/4	2 1/2	61	15 1/2	69 5/8	324T
490	94 5/8	49 1/2	144 3/4	61 3/4	2 1/2	67 1/16	17	76 3/8	324T
542	94 5/8	57	168 3/8	67 3/4	3	74 1/4	15	86 3/4	326T
600	94 5/8	57	179 3/8	73 1/2	3	82	17 1/4	96 1/4	405T
660	104 5/8	66	200 3/8	78	3	90 1/8	17 1/2	105 1/4	405T

### Notes:

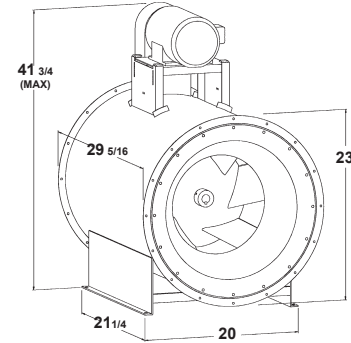
1. Dimensions should not be used for construction. Certified drawings are available upon request.

# ESI - Performance Data

Efficient Silent Inline Fan

## 150

Wheel Diameter = 18.25 in.	Maximum BHP = 0.18 (RPM/1000) <sup>3</sup>
Outlet Area = 2.24 ft. <sup>2</sup>	Max. Motor Frame Size = 215T
Tip Speed, FPM = 4.78 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	NA	31	6	2727
II	206	31	6	3409

① WR<sup>2</sup> = Inertial Starting Force

② Maximum RPM is based on operating temperature of 100°F. From 101°F through 200°F multiply RPM by 0.93.

CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1300	580	824	0.10	977	0.17	1118	0.25														
1400	625	863	0.11	1008	0.19	1142	0.27	1269	0.36												
1500	670	903	0.12	1042	0.20	1169	0.29	1290	0.38	1406	0.49										
1600	714	944	0.14	1077	0.22	1199	0.31	1315	0.41	1426	0.51										
1700	759	986	0.15	1113	0.24	1230	0.34	1341	0.44	1448	0.54	1551	0.66								
1800	804	1028	0.17	1151	0.26	1263	0.36	1370	0.47	1473	0.58	1572	0.69	1669	0.81						
1900	848	1071	0.19	1190	0.29	1298	0.39	1401	0.50	1499	0.61	1595	0.73	1689	0.85	1779	0.98				
2000	893	1114	0.21	1229	0.31	1334	0.42	1433	0.53	1528	0.65	1621	0.77	1711	0.90	1799	1.03	1885	1.17		
2100	938	1158	0.23	1269	0.34	1370	0.45	1466	0.57	1558	0.69	1648	0.81	1735	0.94	1820	1.08	1904	1.22	1985	1.36
2200	982	1202	0.26	1310	0.37	1408	0.48	1501	0.60	1590	0.73	1677	0.85	1761	0.99	1844	1.13	1924	1.27	2004	1.42
2500	1116	1335	0.34	1435	0.47	1525	0.59	1611	0.73	1692	0.86	1771	1.00	1849	1.14	1924	1.29	1998	1.44	2071	1.60
2800	1250	1471	0.45	1563	0.58	1648	0.72	1727	0.87	1803	1.02	1876	1.17	1947	1.32	2017	1.48	2085	1.64	2153	1.81
3100	1384	1608	0.58	1695	0.73	1774	0.88	1848	1.03	1919	1.19	1987	1.36	2053	1.52	2118	1.69	2182	1.87	2245	2.04
3400	1518	1746	0.73	1828	0.89	1902	1.06	1972	1.22	2039	1.40	2103	1.57	2166	1.75	2227	1.93	2287	2.12	2346	2.31
3700	1652	1886	0.91	1962	1.08	2033	1.26	2099	1.44	2163	1.63	2224	1.82	2283	2.01	2340	2.20	2397	2.40	2452	2.60
4000	1786	2026	1.12	2098	1.31	2165	1.49	2228	1.69	2289	1.89	2347	2.09	2403	2.29	2458	2.50	2512	2.71	2564	2.92
4300	1920	2167	1.36	2235	1.56	2299	1.76	2359	1.97	2417	2.18	2473	2.39	2526	2.61	2579	2.83	2630	3.05	2680	3.27
4600	2054	2308	1.64	2373	1.85	2434	2.06	2492	2.28	2547	2.50	2600	2.73	2652	2.96	2702	3.19	2751	3.42	2799	3.66
4900	2188	2450	1.95	2512	2.17	2570	2.40	2626	2.63	2679	2.87	2730	3.10	2779	3.34	2828	3.59	2875	3.84	2921	4.08
5200	2321	2593	2.30	2652	2.54	2707	2.78	2760	3.02	2811	3.27	2861	3.52	2908	3.77	2955	4.03	3000	4.29	3045	4.55

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2600	1161	2167	1.83	2236	2.00	2370	2.34														
2700	1205	2192	1.90	2259	2.07	2391	2.42	2519	2.79												
2800	1250	2219	1.98	2284	2.15	2413	2.51	2538	2.88												
2900	1295	2247	2.06	2311	2.23	2436	2.60	2559	2.98	2678	3.37										
3000	1339	2276	2.14	2339	2.32	2461	2.69	2581	3.07	2698	3.47	2813	3.88								
3100	1384	2307	2.22	2368	2.41	2487	2.78	2604	3.17	2719	3.58	2832	3.99								
3200	1429	2338	2.31	2398	2.50	2515	2.88	2629	3.28	2742	3.69	2852	4.11	2960	4.54						
3300	1473	2370	2.40	2429	2.59	2543	2.98	2655	3.38	2765	3.80	2873	4.23	2979	4.67	3084	5.12				
3400	1518	2403	2.50	2461	2.69	2573	3.09	2683	3.50	2790	3.92	2896	4.35	3000	4.80	3103	5.26	3203	5.73		
3500	1563	2437	2.59	2493	2.79	2603	3.20	2711	3.61	2816	4.04	2920	4.48	3022	4.93	3123	5.39	3222	5.87		
3600	1607	2472	2.70	2527	2.90	2634	3.31	2740	3.73	2844	4.16	2945	4.61	3046	5.07	3144	5.53	3242	6.02	3337	6.51
3700	1652	2507	2.80	2561	3.00	2667	3.42	2770	3.85	2872	4.29	2972	4.74	3070	5.21	3167	5.68	3262	6.17	3357	6.67
3800	1696	2543	2.91	2596	3.12	2700	3.54	2801	3.98	2901	4.43	2999	4.88	3095	5.35	3191	5.83	3285	6.32	3377	6.83
3900	1741	2579	3.02	2631	3.23	2733	3.66	2833	4.11	2931	4.56	3027	5.03	3122	5.50	3215	5.99	3308	6.49	3399	6.99
4000	1786	2616	3.13	2667	3.35	2767	3.79	2865	4.24	2961	4.70	3056	5.17	3149	5.66	3241	6.15	3332	6.65		
4100	1830	2654	3.25	2704	3.47	2802	3.92	2898	4.38	2993	4.85	3086	5.33	3177	5.81	3268	6.31	3357	6.82		
4350	1942	2749	3.56	2797	3.79	2892	4.26	2984	4.74	3075	5.23	3164	5.72	3252	6.23	3338	6.75				
4600	2054	2846	3.90	2893	4.14	2984	4.63	3073	5.13	3160	5.63	3246	6.15	3330	6.67						
4850	2165	2946	4.26	2991	4.51	3079	5.02	3165	5.54	3249	6.07	3332	6.60								
5100	2277	3047	4.65	3091	4.91	3176	5.44	3259	5.98	3340	6.53										

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.

2) Power rating (BHP) does not include belt drive losses.

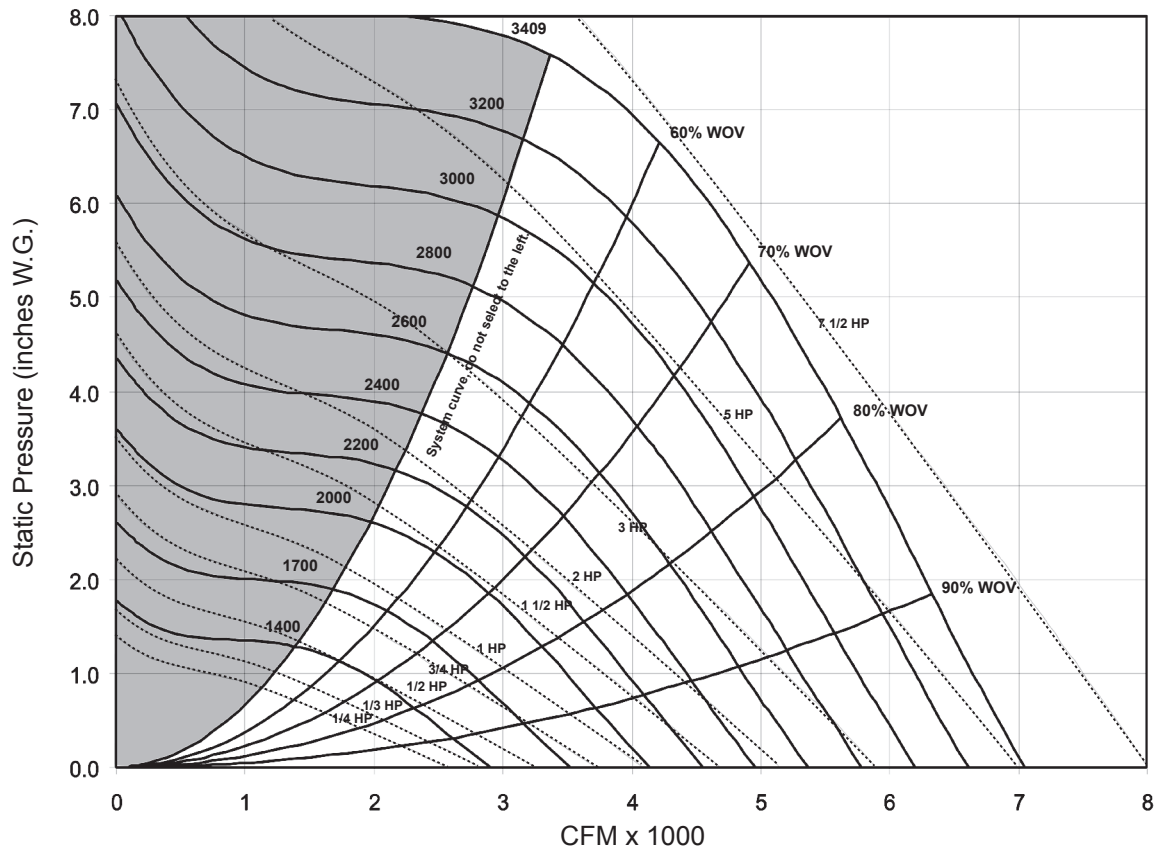
3) Performance ratings do not include the effects of appurtenances in the airstream.

4) Bold figures indicate range of highest static efficiency.

5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 48.53 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
824	100	72	73	75	77	73	63	55	47	77
	80	71	73	75	77	74	64	55	46	78
	70	71	73	75	77	74	64	56	47	78
	60	72	73	75	78	74	64	56	47	78
	50	72	73	75	78	74	64	56	47	78
1100	100	80	78	80	82	82	72	63	56	84
	80	78	78	80	82	82	73	64	56	85
	70	78	78	80	82	82	73	65	56	85
	60	79	78	80	82	82	73	65	57	85
	50	79	77	80	82	82	73	65	56	85
1400	100	79	82	82	83	84	78	69	62	87
	80	79	81	82	83	83	77	70	62	86
	70	79	80	82	83	83	78	70	62	86
	60	79	80	81	83	84	78	70	62	87
	50	79	80	81	83	83	77	70	62	86
1700	100	79	84	85	85	86	81	74	66	89
	80	79	82	84	85	85	80	74	67	88
	70	79	81	83	84	85	80	73	67	88
	60	79	80	82	84	85	80	73	67	88
	50	80	80	82	83	85	80	73	66	88
2000	100	79	85	90	88	88	84	79	69	92
	80	77	83	88	86	86	84	78	71	90
	70	78	82	86	85	86	84	77	71	90
	60	78	82	85	84	86	83	77	71	90
	50	79	81	84	84	85	83	77	71	89
2200	100	79	85	94	89	89	86	82	71	94
	80	76	83	90	87	87	86	80	73	92
	70	77	82	88	85	86	85	79	73	91
	60	78	81	87	84	86	85	79	73	90
	50	79	80	85	83	86	85	79	73	90

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
2400	100	80	87	96	92	91	88	84	74	96
	80	78	84	91	89	89	88	82	76	94
	70	79	84	89	87	88	87	82	76	93
	60	79	83	89	87	88	87	82	76	93
	50	80	83	87	86	88	87	82	76	93
2600	100	82	88	97	94	93	90	87	77	98
	80	79	86	92	91	90	90	85	78	96
	70	80	85	91	90	90	89	84	78	95
	60	81	85	90	89	89	89	84	78	94
	50	81	85	88	88	89	89	84	78	94
2800	100	83	90	98	96	94	92	89	80	99
	80	80	87	94	93	92	91	87	81	97
	70	81	87	92	92	91	91	87	80	97
	60	82	87	91	91	91	91	86	80	96
	50	83	87	90	90	90	91	86	80	96
3000	100	84	91	98	99	96	94	91	83	101
	80	82	89	95	95	94	93	89	83	99
	70	83	88	93	94	93	93	89	83	99
	60	83	88	93	93	92	92	88	82	98
	50	84	88	91	91	92	92	88	82	97
3200	100	85	92	99	101	97	96	92	85	103
	80	83	90	96	97	95	95	91	85	101
	70	84	90	94	95	94	94	91	84	100
	60	84	90	94	95	93	94	90	84	99
	50	85	90	92	93	93	94	90	84	99
3409	100	87	94	100	103	99	98	94	87	105
	80	84	91	97	99	96	96	93	87	102
	70	85	91	95	97	95	96	93	86	101
	60	85	91	95	97	95	95	92	86	101
	50	86	92	93	95	94	95	92	86	100

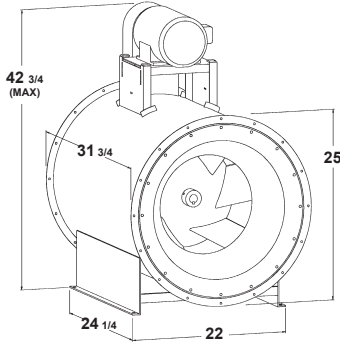
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

# 165

Wheel Diameter = 20.00 in.	Maximum BHP = 0.29 (RPM/1000) <sup>3</sup>
Outlet Area = 2.72 ft. <sup>2</sup>	Max. Motor Frame Size = 215T
Tip Speed, FPM = 5.24 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	NA	38	9	2488
II	248	38	9	3111

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

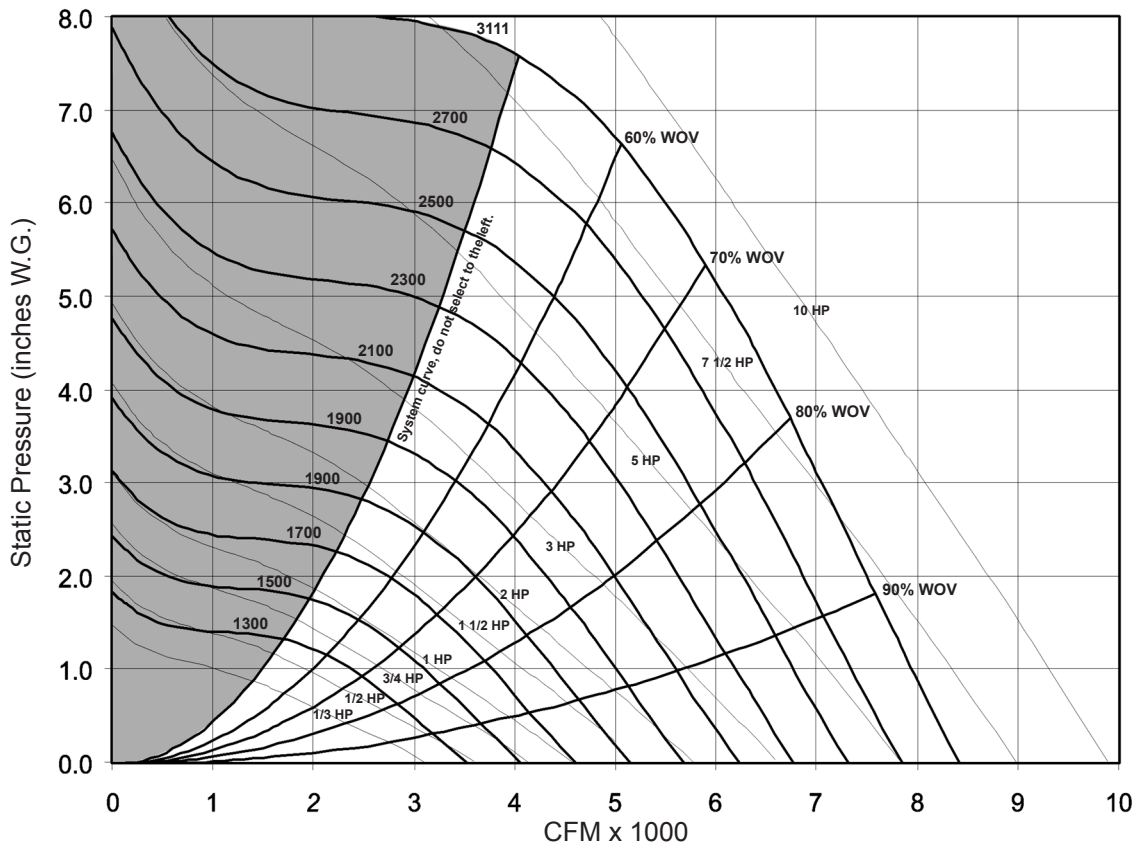
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	551	734	0.11	878	0.19	1010	0.29														
1650	607	778	0.13	912	0.22	1036	0.32	1153	0.43												
1800	662	824	0.15	950	0.24	1067	0.35	1177	0.46	1283	0.58										
1950	717	871	0.17	991	0.27	1101	0.38	1205	0.50	1306	0.63	1403	0.76								
2100	772	918	0.19	1033	0.30	1137	0.42	1236	0.54	1332	0.67	1425	0.81								
2250	827	967	0.22	1076	0.34	1176	0.46	1270	0.59	1362	0.72	1450	0.86	1536	1.01	1619	1.17				
2400	882	1016	0.25	1121	0.37	1216	0.50	1307	0.64	1394	0.78	1478	0.92	1561	1.07	1641	1.23	1719	1.40		
2550	938	1066	0.29	1167	0.42	1258	0.55	1345	0.69	1429	0.83	1510	0.99	1589	1.14	1666	1.31	1741	1.47	1815	1.65
2700	993	1116	0.33	1213	0.46	1302	0.60	1385	0.75	1465	0.90	1543	1.05	1619	1.21	1693	1.38	1766	1.56	1837	1.73
2850	1048	1167	0.37	1261	0.51	1346	0.65	1426	0.81	1504	0.96	1579	1.12	1652	1.29	1723	1.46	1793	1.64	1862	1.82
3200	1176	1286	0.48	1373	0.63	1453	0.80	1527	0.96	1599	1.13	1668	1.31	1735	1.49	1801	1.67	1866	1.86	1929	2.05
3500	1287	1390	0.60	1472	0.76	1547	0.94	1617	1.12	1685	1.30	1750	1.49	1813	1.68	1875	1.87	1936	2.07	1995	2.28
3800	1397	1494	0.73	1572	0.91	1643	1.10	1710	1.29	1774	1.48	1835	1.68	1895	1.89	1954	2.09	2011	2.30	2068	2.52
4100	1507	1599	0.89	1673	1.08	1741	1.28	1805	1.48	1866	1.69	1924	1.90	1981	2.12	2037	2.34	2091	2.56	2145	2.79
4400	1618	1705	1.07	1776	1.27	1840	1.48	1901	1.70	1960	1.92	2016	2.14	2070	2.37	2123	2.60	2175	2.84	2226	3.07
4700	1728	1812	1.27	1879	1.49	1941	1.71	1999	1.94	2055	2.17	2109	2.41	2161	2.65	2212	2.89	2261	3.14	2310	3.39
5000	1838	1919	1.50	1983	1.73	2042	1.96	2098	2.21	2152	2.45	2204	2.70	2254	2.95	2303	3.21	2350	3.47	2397	3.73
5300	1949	2026	1.76	2087	2.00	2144	2.25	2198	2.50	2250	2.76	2300	3.02	2348	3.28	2395	3.55	2441	3.83	2486	4.10
5600	2059	2134	2.04	2192	2.30	2247	2.56	2299	2.82	2349	3.09	2397	3.37	2444	3.65	2489	3.93	2534	4.21	2577	4.50
5900	2169	2241	2.36	2298	2.63	2351	2.90	2401	3.18	2449	3.46	2496	3.75	2541	4.04	2585	4.33	2628	4.63	2670	4.93

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3300	1213	2012	2.33	2072	2.53	2191	2.96	2307	3.41												
3400	1250	2033	2.40	2092	2.61	2208	3.05	2322	3.50	2432	3.96										
3500	1287	2054	2.48	2112	2.70	2226	3.13	2338	3.59	2447	4.06										
3600	1324	2076	2.57	2133	2.78	2245	3.23	2355	3.69	2462	4.16	2566	4.66								
3700	1360	2099	2.65	2155	2.87	2265	3.32	2372	3.79	2477	4.27	2580	4.77								
3800	1397	2123	2.74	2178	2.96	2286	3.42	2391	3.89	2494	4.38	2596	4.88	2695	5.41						
3900	1434	2147	2.83	2201	3.05	2307	3.52	2410	4.00	2512	4.49	2611	5.00	2709	5.53	2805	6.07				
4000	1471	2172	2.92	2225	3.15	2329	3.62	2431	4.10	2530	4.61	2628	5.12	2724	5.65	2819	6.20				
4100	1507	2197	3.01	2249	3.25	2351	3.73	2451	4.22	2549	4.72	2646	5.25	2740	5.78	2834	6.33	2925	6.90		
4200	1544	2223	3.11	2274	3.35	2375	3.83	2473	4.33	2569	4.85	2664	5.37	2757	5.91	2849	6.47	2939	7.04		
4300	1581	2249	3.21	2300	3.45	2398	3.95	2495	4.45	2590	4.97	2683	5.50	2775	6.05	2865	6.61	2954	7.19	3042	7.78
4400	1618	2276	3.32	2325	3.56	2423	4.06	2518	4.57	2611	5.10	2703	5.64	2793	6.19	2882	6.76	2970	7.34	3056	7.94
4500	1654	2303	3.42	2352	3.67	2447	4.18	2541	4.70	2633	5.23	2723	5.78	2812	6.33	2900	6.91	2986	7.50	3072	8.10
4600	1691	2330	3.53	2378	3.78	2472	4.30	2565	4.82	2655	5.36	2744	5.92	2832	6.48	2918	7.06	3003	7.65	3088	8.26
4700	1728	2358	3.64	2405	3.90	2498	4.42	2589	4.96	2678	5.50	2766	6.06	2852	6.63	2937	7.22	3021	7.82	3104	8.43
4800	1765	2386	3.76	2433	4.02	2524	4.55	2614	5.09	2701	5.64	2788	6.21	2873	6.79	2957	7.38	3040	7.98		
5050	1857	2458	4.06	2503	4.33	2591	4.88	2677	5.44	2762	6.01	2845	6.59	2927	7.19	3008	7.80	3088	8.41		
5300	1949	2531	4.38	2574	4.66	2660	5.23	2743	5.81	2825	6.40	2906	7.00	2985	7.61	3063	8.24				
5550	2040	2605	4.72	2647	5.01	2730	5.60	2811	6.20	2890	6.81	2968	7.43	3045	8.06						
5800	2132	2681	5.08	2722	5.38	2802	5.99	2881	6.61	2958	7.24	3034	7.88	3108	8.53						

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 36.87 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
734	100	71	73	76	77	72	61	53	45	77
	80	70	73	76	77	72	63	54	45	77
	70	71	73	76	78	72	63	55	46	78
	60	71	73	76	78	73	63	55	46	78
	50	71	73	76	78	72	63	55	46	78
1000	100	83	80	82	84	84	72	64	56	86
	80	82	80	82	84	84	73	65	56	86
	70	82	80	82	85	84	73	65	56	87
	60	82	80	82	85	85	73	66	57	87
	50	83	80	82	85	84	73	66	57	87
1300	100	83	84	85	86	86	79	70	63	89
	80	82	83	85	86	85	79	71	63	88
	70	82	83	84	86	86	79	71	63	89
	60	82	82	84	86	86	79	71	63	89
	50	82	82	84	86	86	79	71	63	89
1500	100	83	86	86	87	87	82	73	66	90
	80	82	85	86	87	86	81	74	66	90
	70	83	84	85	86	87	81	74	67	90
	60	83	83	84	86	87	81	74	67	90
	50	83	83	84	86	87	81	74	66	90
1700	100	82	87	88	88	88	84	77	69	92
	80	82	86	87	87	87	83	76	69	91
	70	83	84	86	87	88	83	76	69	91
	60	83	84	85	86	88	83	76	69	91
	50	83	83	85	86	88	83	76	69	91
1900	100	82	88	91	90	90	86	80	71	94
	80	81	86	90	88	88	85	79	72	92
	70	82	85	88	87	88	85	79	72	92
	60	82	85	87	87	88	85	79	72	92
	50	82	84	86	86	88	85	79	72	92

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
2100	100	82	88	95	91	91	88	83	73	95
	80	80	86	92	89	89	88	82	75	94
	70	81	85	90	88	89	87	81	75	93
	60	81	85	89	87	89	87	81	75	93
	50	82	84	88	86	89	87	81	75	93
2300	100	83	89	98	93	93	90	86	75	98
	80	80	87	93	91	91	90	84	77	96
	70	81	86	92	89	90	89	83	77	95
	60	82	85	91	88	90	89	83	77	94
	50	83	85	89	87	90	89	83	77	94
2500	100	85	91	99	96	95	92	88	79	100
	80	82	88	95	93	92	92	86	80	98
	70	83	88	93	91	92	91	86	80	97
	60	83	87	93	91	91	91	86	80	96
	50	84	87	90	90	91	91	86	80	96
2700	100	86	92	100	98	96	94	90	81	101
	80	83	90	96	95	94	93	89	82	99
	70	84	89	94	94	93	93	88	82	99
	60	85	89	94	93	93	93	88	82	98
	50	86	89	92	92	93	93	88	82	98
2900	100	87	94	101	100	98	96	92	84	103
	80	84	91	97	97	96	95	91	84	101
	70	86	91	96	96	95	95	90	84	101
	60	86	91	95	95	94	94	90	84	100
	50	87	91	93	93	94	94	90	84	99
3111	100	88	95	102	103	99	98	94	87	105
	80	86	92	98	99	97	97	93	87	103
	70	87	92	97	98	96	96	93	86	102
	60	87	92	96	97	96	96	92	86	102
	50	88	92	95	95	95	96	92	86	101

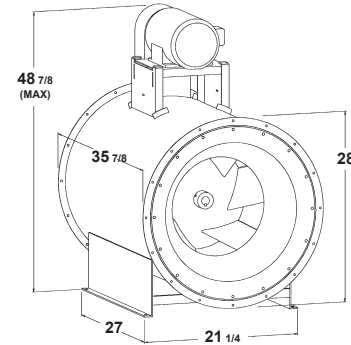
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

# 182

Wheel Diameter = 22.25 in.	Maximum BHP = 0.43 (RPM/1000) <sup>3</sup>
Outlet Area = 3.32 ft. <sup>2</sup>	Max. Motor Frame Size = 286T
Tip Speed, FPM = 5.83 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	282	38	13	2236
II	297	49	15	2796

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

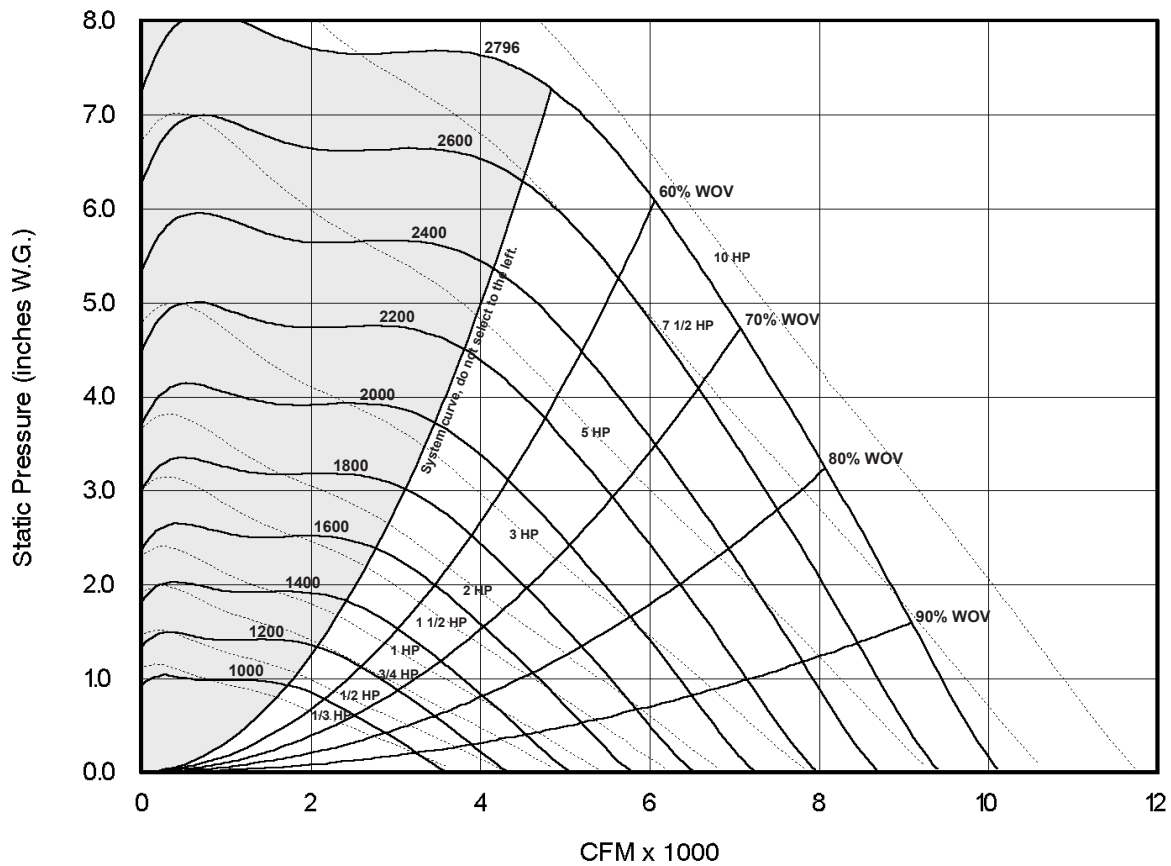
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1750	527	668	0.12	803	0.22	921	0.33														
1900	572	701	0.14	830	0.24	943	0.36	1048	0.49												
2050	617	734	0.15	859	0.27	968	0.39	1068	0.52	1163	0.66										
2200	663	767	0.17	888	0.29	994	0.42	1090	0.56	1182	0.70										
2350	708	802	0.19	919	0.32	1021	0.45	1114	0.59	1202	0.74	1287	0.90								
2500	753	837	0.22	951	0.35	1050	0.49	1140	0.63	1225	0.79	1307	0.95	1385	1.12						
2650	798	872	0.24	983	0.38	1079	0.53	1167	0.68	1250	0.84	1328	1.00	1404	1.18	1478	1.36				
2800	843	908	0.27	1016	0.41	1109	0.56	1195	0.72	1276	0.89	1352	1.06	1426	1.24	1497	1.42	1566	1.62		
2950	889	944	0.30	1049	0.45	1141	0.61	1224	0.77	1302	0.94	1377	1.12	1448	1.30	1518	1.49	1585	1.69	1651	1.89
3100	934	980	0.33	1083	0.49	1172	0.65	1254	0.82	1330	1.00	1403	1.18	1473	1.37	1540	1.56	1606	1.77	1669	1.97
3500	1054	1079	0.42	1175	0.60	1259	0.78	1337	0.97	1409	1.16	1477	1.36	1543	1.57	1606	1.77	1667	1.99	1727	2.21
3900	1175	1180	0.54	1269	0.73	1349	0.93	1423	1.14	1492	1.35	1557	1.57	1619	1.78	1679	2.01	1737	2.24	1793	2.47
4300	1295	1282	0.68	1366	0.89	1442	1.11	1512	1.33	1578	1.56	1640	1.79	1699	2.03	1757	2.27	1812	2.51	1866	2.76
4700	1416	1385	0.85	1464	1.07	1536	1.31	1603	1.55	1666	1.79	1726	2.04	1783	2.30	1838	2.55	1891	2.81	1943	3.08
5100	1536	1490	1.04	1564	1.28	1632	1.53	1697	1.79	1757	2.05	1815	2.32	1870	2.59	1922	2.87	1974	3.14	2023	3.43
5500	1657	1595	1.27	1665	1.52	1730	1.79	1791	2.07	1850	2.35	1905	2.63	1958	2.92	2009	3.21	2058	3.51	2106	3.80
5900	1777	1701	1.52	1767	1.80	1829	2.08	1888	2.37	1944	2.67	1997	2.97	2048	3.28	2098	3.59	2146	3.90	2192	4.21
6300	1898	1807	1.81	1870	2.10	1929	2.40	1985	2.71	2039	3.03	2091	3.34	2140	3.67	2188	3.99	2234	4.33	2279	4.66
6700	2018	1914	2.14	1973	2.45	2030	2.76	2084	3.09	2136	3.42	2185	3.76	2233	4.10	2280	4.44	2325	4.79	2369	5.14
7100	2139	2021	2.51	2078	2.83	2131	3.16	2183	3.51	2233	3.85	2281	4.21	2328	4.56	2373	4.92	2417	5.29	2459	5.66

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3700	1114	1816	2.57	1872	2.80	1980	3.29	2084	3.81												
3800	1145	1832	2.64	1887	2.88	1993	3.37	2096	3.89												
3900	1175	1849	2.71	1902	2.95	2007	3.45	2109	3.98	2208	4.52										
4000	1205	1865	2.78	1919	3.03	2022	3.54	2122	4.06	2220	4.61										
4100	1235	1883	2.86	1935	3.11	2037	3.62	2136	4.15	2232	4.71	2326	5.28								
4200	1265	1900	2.93	1952	3.19	2053	3.71	2150	4.25	2245	4.81	2338	5.38								
4300	1295	1918	3.01	1969	3.27	2069	3.80	2165	4.34	2259	4.91	2350	5.49	2439	6.09						
4400	1325	1936	3.09	1987	3.35	2085	3.89	2181	4.44	2273	5.01	2363	5.60	2451	6.21						
4500	1355	1955	3.18	2005	3.44	2102	3.98	2196	4.54	2288	5.12	2376	5.71	2463	6.32	2549	6.95				
4600	1386	1974	3.26	2023	3.53	2119	4.08	2212	4.64	2303	5.22	2390	5.82	2476	6.44	2561	7.08				
4700	1416	1993	3.35	2042	3.62	2137	4.17	2229	4.75	2318	5.34	2405	5.94	2490	6.56	2573	7.20	2655	7.86		
4800	1446	2012	3.44	2061	3.71	2155	4.27	2246	4.85	2334	5.45	2420	6.06	2504	6.69	2586	7.33	2667	8.00		
4900	1476	2032	3.53	2080	3.80	2173	4.38	2263	4.96	2350	5.56	2435	6.18	2518	6.82	2599	7.47	2679	8.13	2758	8.82
5000	1506	2051	3.62	2099	3.90	2191	4.48	2280	5.07	2366	5.68	2451	6.31	2533	6.95	2613	7.60	2692	8.27	2770	8.96
5100	1536	2071	3.71	2119	4.00	2210	4.59	2298	5.19	2383	5.80	2466	6.43	2548	7.08	2627	7.74	2705	8.42	2782	9.11
5200	1566	2092	3.81	2138	4.10	2229	4.69	2316	5.30	2400	5.92	2483	6.56	2563	7.21	2642	7.88	2719	8.57	2795	9.26
5450	1642	2143	4.05	2188	4.36	2277	4.97	2362	5.60	2445	6.24	2525	6.90	2603	7.56	2680	8.25	2755	8.95		
5700	1717	2195	4.32	2240	4.63	2326	5.26	2410	5.91	2490	6.57	2569	7.24	2645	7.93	2720	8.63	2794	9.34		
5950	1792	2248	4.59	2292	4.91	2377	5.57	2458	6.24	2537	6.92	2614	7.61	2689	8.31	2762	9.03				
6200	1867	2302	4.88	2345	5.21	2428	5.89	2508	6.58	2586	7.28	2661	7.99	2734	8.71						

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 27.69 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
668	100	66	71	71	70	69	63	54	44	73
	80	64	69	70	69	69	64	55	45	72
	70	63	68	70	69	69	64	56	45	72
	60	62	67	70	69	70	64	56	45	73
	50	62	67	69	69	70	65	56	46	73
835	100	75	75	77	74	75	71	62	52	79
	80	73	73	76	74	75	71	64	53	78
	70	72	72	76	73	76	71	64	53	79
	60	71	71	76	73	76	72	64	53	79
	50	74	71	76	73	76	72	64	54	79
1000	100	78	79	81	78	78	75	68	58	82
	80	77	77	80	77	78	76	69	59	82
	70	76	76	79	77	78	76	69	60	82
	60	74	75	79	77	78	76	70	60	82
	50	78	75	78	76	78	76	70	60	82
1200	100	80	85	84	81	81	79	74	63	86
	80	79	82	83	80	81	78	75	65	85
	70	77	81	82	79	80	78	75	65	85
	60	75	80	81	79	80	78	75	66	85
	50	81	80	81	78	80	78	75	66	84
1400	100	81	89	88	85	84	81	76	68	89
	80	80	86	86	83	82	80	77	69	87
	70	79	84	85	83	82	80	77	69	87
	60	77	83	84	82	81	80	77	70	87
	50	81	83	83	81	81	80	77	70	86
1600	100	82	93	91	88	86	84	79	71	91
	80	80	89	88	86	84	82	79	72	89
	70	79	87	87	85	83	81	79	72	89
	60	79	85	86	84	83	81	79	72	88
	50	80	84	85	83	82	81	79	72	88

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
1800	100	82	95	94	90	88	86	81	74	94
	80	81	91	91	89	86	83	81	75	92
	70	80	88	90	88	85	83	81	75	91
	60	80	86	88	86	84	82	81	75	90
	50	80	85	87	85	84	82	81	75	89
2000	100	84	96	98	93	90	89	84	77	97
	80	82	92	95	92	89	86	84	78	95
	70	82	90	93	90	88	86	83	78	94
	60	82	88	91	89	87	85	83	78	93
	50	82	87	90	88	86	85	83	78	92
2200	100	86	97	102	96	93	91	87	80	100
	80	84	93	98	94	91	89	86	81	97
	70	84	92	96	93	90	88	86	81	96
	60	84	90	94	92	89	87	86	81	95
	50	84	89	92	91	89	87	86	81	95
2400	100	87	97	105	99	95	93	89	83	102
	80	86	94	101	97	94	91	88	84	100
	70	85	93	98	95	92	90	88	84	98
	60	85	92	96	94	91	89	88	84	97
	50	85	91	95	93	91	89	88	84	97
2600	100	89	98	107	101	97	95	92	86	104
	80	87	95	103	99	96	93	90	86	102
	70	87	94	100	97	94	92	90	86	100
	60	87	93	98	96	93	91	90	86	99
	50	87	93	96	95	93	91	90	86	99
2796	100	90	99	108	103	99	97	94	88	106
	80	88	96	104	101	98	95	92	88	104
	70	88	95	101	99	96	94	92	88	102
	60	88	95	99	98	95	93	91	88	101
	50	88	94	98	97	94	93	91	88	100

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

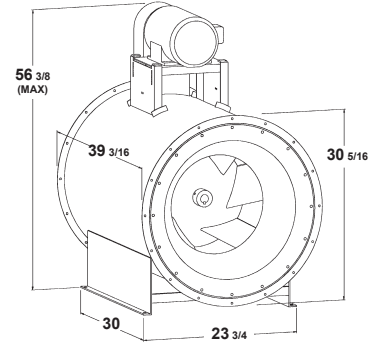


# ESI - Performance Data

Efficient Silent Inline Fan

# 200

Wheel Diameter = 24.50 in.	Maximum BHP = 0.69 (RPM/1000) <sup>3</sup>
Outlet Area = 4.00 ft. <sup>2</sup>	Max. Motor Frame Size = 286T
Tip Speed, FPM = 6.41 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	335	52	22	2041
II	353	65	28	2551

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

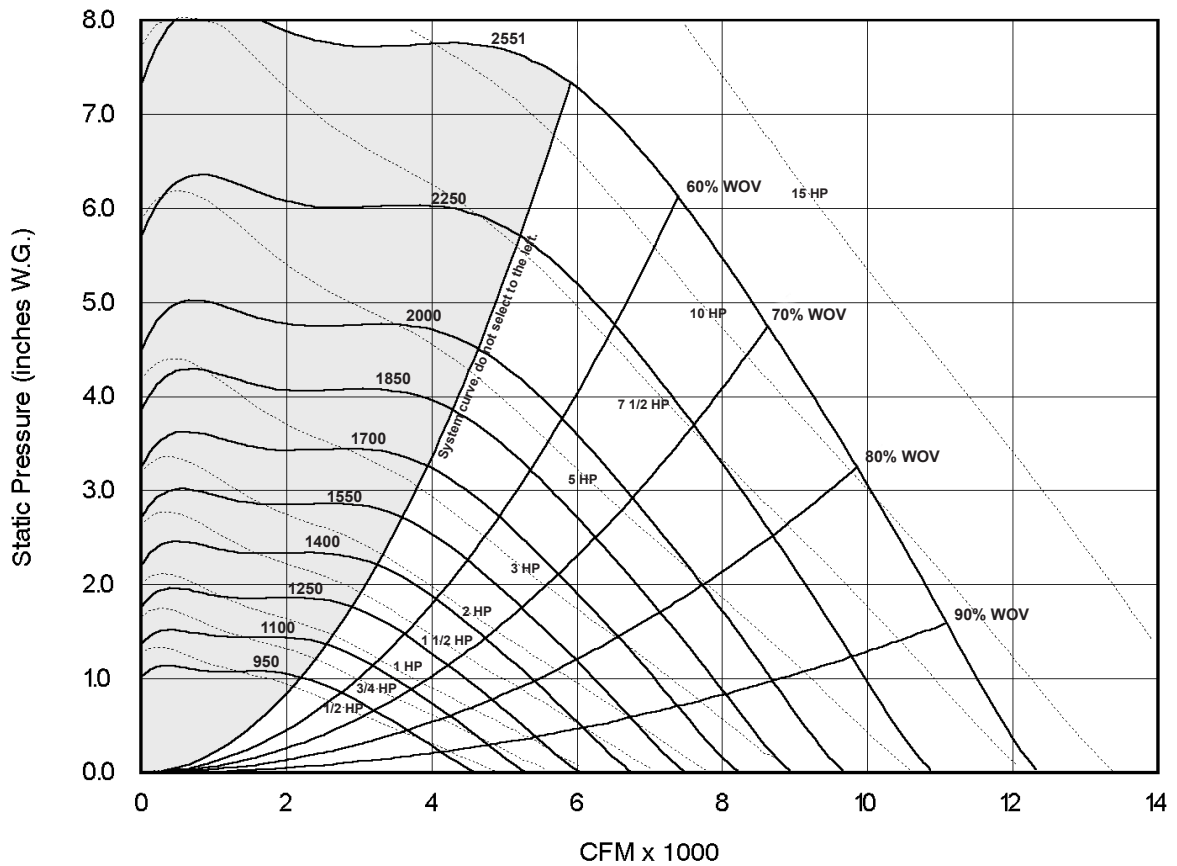
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2400	600	652	0.18	767	0.31	868	0.45	961	0.61												
2600	650	685	0.20	797	0.34	893	0.49	982	0.66	1066	0.83										
2800	700	720	0.23	827	0.38	920	0.54	1006	0.71	1087	0.89	1164	1.08								
3000	750	754	0.26	858	0.42	949	0.58	1031	0.76	1109	0.95	1183	1.14	1255	1.35						
3200	800	790	0.29	890	0.46	978	0.63	1058	0.82	1133	1.01	1205	1.21	1274	1.42	1341	1.64				
3400	850	825	0.33	923	0.50	1008	0.69	1086	0.88	1159	1.08	1228	1.29	1295	1.50	1360	1.73	1423	1.96		
3600	900	861	0.36	956	0.55	1039	0.74	1115	0.94	1186	1.15	1253	1.37	1318	1.59	1381	1.82	1442	2.06	1501	2.31
3800	950	898	0.41	990	0.60	1071	0.80	1145	1.01	1214	1.23	1280	1.45	1343	1.68	1403	1.92	1463	2.16	1520	2.42
4000	1000	935	0.45	1025	0.66	1104	0.87	1176	1.08	1243	1.31	1307	1.54	1368	1.78	1428	2.02	1485	2.27	1541	2.53
4500	1125	1028	0.59	1112	0.81	1187	1.04	1255	1.28	1319	1.53	1379	1.78	1437	2.03	1493	2.30	1547	2.57	1600	2.84
5000	1250	1123	0.75	1202	0.99	1272	1.25	1337	1.51	1398	1.78	1456	2.05	1511	2.32	1564	2.61	1615	2.89	1665	3.19
5500	1375	1220	0.94	1293	1.21	1360	1.48	1422	1.77	1480	2.05	1535	2.35	1588	2.65	1639	2.95	1688	3.26	1735	3.57
6000	1500	1317	1.17	1386	1.46	1449	1.75	1509	2.06	1564	2.37	1617	2.68	1668	3.00	1717	3.33	1764	3.66	1809	3.99
6500	1625	1415	1.44	1480	1.74	1540	2.06	1597	2.38	1650	2.72	1701	3.05	1750	3.40	1797	3.74	1842	4.09	1886	4.45
7000	1750	1514	1.74	1575	2.07	1632	2.41	1686	2.75	1738	3.11	1787	3.47	1834	3.83	1879	4.20	1923	4.57	1966	4.95
7500	1875	1614	2.09	1671	2.44	1726	2.80	1777	3.16	1827	3.54	1874	3.92	1920	4.31	1964	4.70	2006	5.09	2047	5.49
8000	2000	1713	2.49	1768	2.86	1820	3.24	1869	3.62	1917	4.02	1963	4.42	2007	4.83	2049	5.24	2090	5.66	2130	6.08
8500	2125	1814	2.94	1865	3.33	1915	3.72	1963	4.13	2008	4.55	2052	4.97	2095	5.40	2136	5.84	2176	6.27	2215	6.72
9000	2250	1914	3.44	1964	3.85	2011	4.27	2056	4.69	2100	5.13	2143	5.58	2184	6.03	2224	6.48	2263	6.94	2301	7.41
9500	2375	2015	4.00	2062	4.43	2107	4.86	2151	5.31	2194	5.77	2235	6.24	2274	6.71	2313	7.18	2351	7.66	2388	8.15

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4400	1100	1639	3.05	1690	3.34	1789	3.93														
4500	1138	1657	3.16	1707	3.45	1804	4.04	1898	4.67												
4700	1175	1675	3.26	1724	3.56	1820	4.16	1912	4.79	2002	5.45										
4850	1213	1694	3.37	1742	3.67	1836	4.29	1927	4.93	2016	5.59										
5000	1250	1713	3.49	1761	3.79	1854	4.41	1943	5.06	2030	5.74	2115	6.43								
5150	1288	1733	3.60	1780	3.91	1871	4.55	1959	5.20	2045	5.88	2128	6.59								
5300	1325	1754	3.72	1800	4.04	1890	4.68	1976	5.35	2060	6.04	2143	6.75	2223	7.48						
5450	1363	1775	3.85	1820	4.17	1908	4.82	1994	5.50	2077	6.20	2158	6.92	2237	7.66	2314	8.42				
5600	1400	1796	3.97	1841	4.30	1928	4.97	2012	5.65	2094	6.36	2173	7.09	2251	7.84	2327	8.61				
5750	1438	1817	4.10	1862	4.43	1948	5.11	2031	5.81	2111	6.53	2190	7.26	2266	8.02	2342	8.80	2415	9.60		
5900	1475	1839	4.24	1883	4.57	1968	5.26	2050	5.97	2129	6.70	2207	7.44	2282	8.21	2356	9.00	2429	9.80	2501	10.63
6050	1513	1861	4.37	1904	4.72	1988	5.42	2069	6.14	2148	6.87	2224	7.63	2299	8.41	2372	9.20	2444	10.02	2514	10.85
6200	1550	1884	4.51	1926	4.86	2009	5.58	2089	6.31	2167	7.05	2242	7.82	2316	8.60	2388	9.41	2459	10.23	2528	11.07
6350	1588	1906	4.66	1949	5.02	2030	5.74	2109	6.48	2186	7.24	2260	8.01	2333	8.81	2404	9.62	2474	10.45	2543	11.30
6500	1625	1929	4.81	1971	5.17	2052	5.91	2130	6.66	2206	7.43	2279	8.21	2351	9.02	2421	9.84	2490	10.68		
6800	1700	1976	5.11	2017	5.49	2096	6.25	2172	7.03	2246	7.82	2318	8.63	2388	9.45	2457	10.29	2524	11.15		
7100	1775	2023	5.44	2063	5.82	2141	6.61	2216	7.41	2288	8.23	2358	9.06	2427	9.90	2494	10.77				
7400	1850	2071	5.78	2111	6.18	2187	6.99	2260	7.81	2331	8.65	2400	9.51	2467	10.37	2533	11.26				
7700	1925	2120	6.13	2159	6.54	2233	7.38	2305	8.23	2375	9.10	2443	9.97	2509	10.87						
8000	2000	2169	6.50	2207	6.93	2281	7.79	2352	8.67	2420	9.56	2486	10.46								

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 20.73 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
651	100	69	73	73	72	71	65	56	46	75
	80	66	72	72	72	72	66	57	47	75
	70	65	71	72	72	72	66	58	47	75
	60	64	70	72	72	72	66	58	47	75
	50	65	70	72	72	72	67	58	47	75
800	100	77	78	79	76	77	72	64	54	80
	80	75	76	78	76	77	73	65	55	80
	70	74	75	78	76	77	73	65	55	80
	60	73	74	78	76	77	73	65	54	80
	50	75	74	78	75	78	73	66	55	81
950	100	81	82	83	80	81	77	70	59	85
	80	80	79	82	79	81	78	71	61	85
	70	79	78	82	79	81	78	71	61	85
	60	78	77	81	79	81	78	71	61	85
	50	82	77	81	78	81	78	71	61	84
1100	100	83	85	85	83	83	80	74	64	87
	80	82	82	84	82	82	80	75	65	87
	70	80	81	83	81	82	80	75	66	86
	60	78	80	83	81	82	80	75	66	86
	50	83	81	82	81	82	80	76	66	86
1250	100	84	89	88	85	85	82	78	67	89
	80	83	86	87	84	84	82	78	69	89
	70	81	85	86	83	84	82	78	69	89
	60	79	84	85	82	83	82	79	70	88
	50	85	84	84	82	83	82	79	70	88
1400	100	85	92	91	88	87	84	79	71	92
	80	84	89	89	86	85	83	80	72	90
	70	82	87	88	86	85	83	80	72	90
	60	81	86	87	85	84	83	80	72	90
	50	84	86	86	84	84	83	80	73	89

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
1550	100	86	95	93	90	88	86	81	73	93
	80	84	91	91	89	86	84	81	75	92
	70	83	89	90	88	86	84	81	75	91
	60	82	88	89	87	85	84	81	75	91
	50	84	87	88	86	85	84	81	75	91
1700	100	85	97	96	92	89	88	83	75	95
	80	84	93	93	91	88	85	83	76	94
	70	83	91	91	89	87	85	83	76	93
	60	83	89	90	88	86	84	83	76	92
	50	83	88	89	87	86	84	83	76	91
1850	100	86	99	98	94	91	90	85	77	97
	80	85	95	95	93	90	87	84	78	96
	70	85	92	94	91	89	87	84	78	95
	60	84	90	92	90	88	86	84	78	94
	50	84	89	91	89	87	86	85	79	93
2000	100	88	99	101	96	93	91	87	80	99
	80	86	96	98	95	92	89	86	81	98
	70	86	94	96	93	91	88	86	81	96
	60	86	92	94	92	90	88	86	81	96
	50	86	90	93	91	89	88	86	81	95
2250	100	90	100	106	100	96	94	90	84	103
	80	88	97	102	98	95	92	89	84	101
	70	88	95	100	96	94	91	89	84	100
	60	88	94	98	95	93	91	89	85	99
	50	88	93	96	94	92	91	89	85	98
2551	100	92	101	110	103	100	97	94	88	107
	80	90	99	106	101	98	95	93	88	104
	70	90	97	103	100	97	95	92	88	103
	60	90	96	101	98	96	94	92	88	102
	50	90	96	99	97	95	94	92	88	101

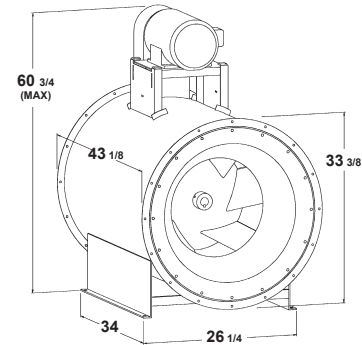
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

# 222

Wheel Diameter = 27.00 in.	Maximum BHP = 1.26 (RPM/1000) <sup>3</sup>
Outlet Area = 4.93 ft. <sup>2</sup>	Max. Motor Frame Size = 326T
Tip Speed, FPM = 7.07 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	408	66	34	1835
II	430	78	41	2294

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

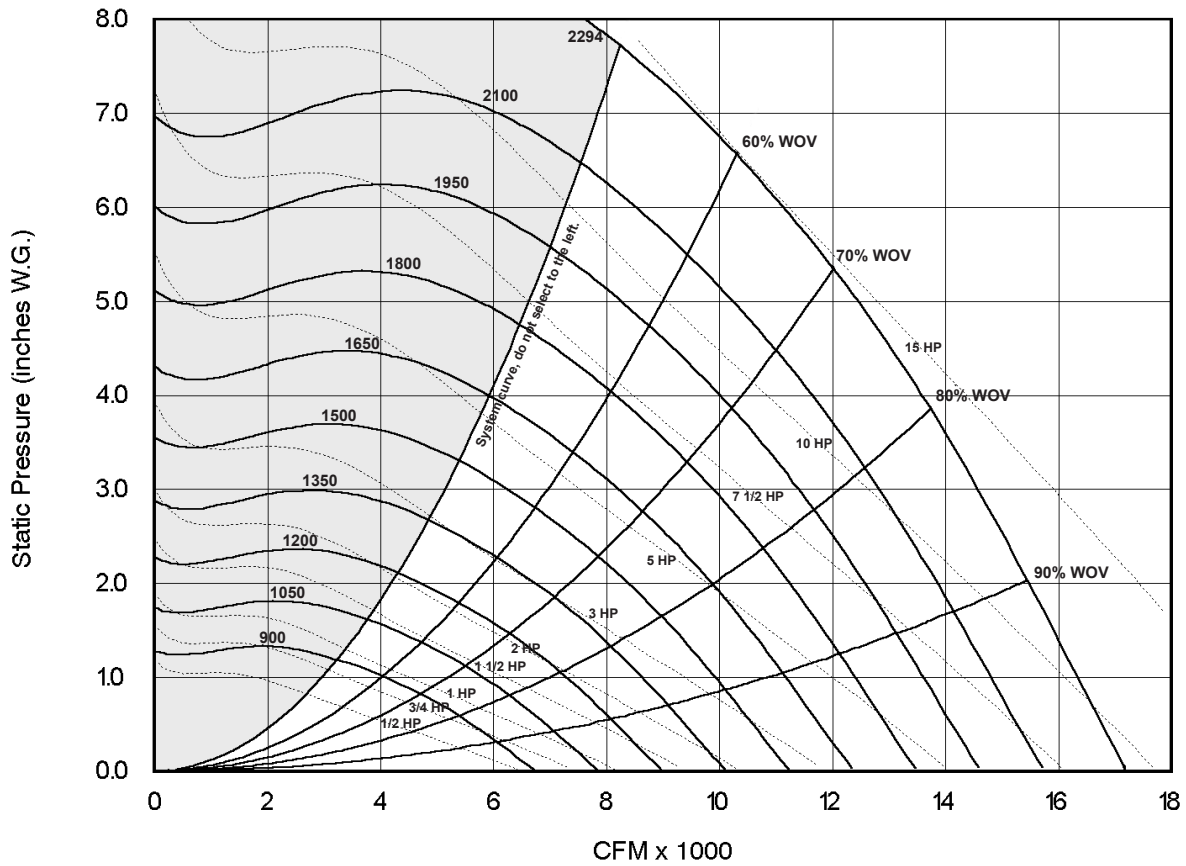
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	609	534	0.18	<b>645</b>	<b>0.33</b>	<b>741</b>	<b>0.50</b>														
3500	710	585	0.23	<b>686</b>	<b>0.39</b>	<b>776</b>	<b>0.58</b>	<b>858</b>	<b>0.77</b>												
4000	811	639	0.28	732	0.47	<b>816</b>	<b>0.67</b>	<b>893</b>	<b>0.88</b>	<b>965</b>	<b>1.10</b>	<b>1032</b>	<b>1.34</b>								
4500	913	695	0.35	780	0.55	859	0.77	<b>932</b>	<b>1.00</b>	<b>1001</b>	<b>1.24</b>	<b>1065</b>	<b>1.49</b>	<b>1126</b>	<b>1.75</b>	<b>1185</b>	<b>2.01</b>				
5000	1014	753	0.43	832	0.65	906	0.88	975	1.13	<b>1040</b>	<b>1.39</b>	<b>1102</b>	<b>1.65</b>	<b>1160</b>	<b>1.93</b>	<b>1217</b>	<b>2.21</b>	<b>1271</b>	<b>2.50</b>	<b>1323</b>	<b>2.80</b>
5500	1116	813	0.52	886	0.76	955	1.01	1020	1.27	1082	1.55	<b>1141</b>	<b>1.83</b>	<b>1198</b>	<b>2.12</b>	<b>1252</b>	<b>2.42</b>	<b>1304</b>	<b>2.73</b>	<b>1354</b>	<b>3.04</b>
6000	1217	873	0.63	941	0.88	1006	1.15	1068	1.43	1127	1.72	1183	2.03	<b>1237</b>	<b>2.34</b>	<b>1290</b>	<b>2.65</b>	<b>1340</b>	<b>2.98</b>	<b>1389</b>	<b>3.31</b>
6500	1318	935	0.75	998	1.02	1059	1.31	1117	1.61	1173	1.92	1227	2.24	1279	2.56	<b>1330</b>	<b>2.90</b>	<b>1378</b>	<b>3.24</b>	<b>1426</b>	<b>3.58</b>
7000	1420	997	0.89	1057	1.18	1114	1.49	1169	1.80	1222	2.13	1274	2.46	1324	2.81	1372	3.16	<b>1419</b>	<b>3.52</b>	<b>1465</b>	<b>3.88</b>
7500	1521	1060	1.05	1116	1.36	1170	1.68	1222	2.02	1273	2.36	1322	2.71	1370	3.07	1417	3.44	1462	3.81	<b>1506</b>	<b>4.20</b>
8000	1623	1123	1.23	1176	1.56	1227	1.90	1277	2.25	1325	2.61	1373	2.98	1418	3.35	1463	3.74	1507	4.13	1549	4.53
8500	1724	1187	1.44	1237	1.78	1286	2.14	1333	2.50	1379	2.88	1424	3.27	1468	3.66	1511	4.06	1553	4.47	1594	4.89
9000	1826	1251	1.66	1298	2.03	1345	2.40	1390	2.78	1434	3.18	1477	3.58	1519	3.99	1561	4.41	1601	4.84	1641	5.27
9500	1927	1315	1.91	1360	2.29	1404	2.69	1448	3.09	1490	3.50	1531	3.92	1572	4.35	1612	4.78	1651	5.22	1689	5.67
10000	2028	1379	2.19	1423	2.59	1465	3.00	1506	3.42	1547	3.85	1586	4.28	1626	4.73	1664	5.18	1702	5.64	1739	6.11
10500	2130	1444	2.49	1485	2.91	1526	3.34	1565	3.77	1604	4.22	1643	4.67	1680	5.14	1717	5.60	1754	6.08	1789	6.57
11000	2231	1509	2.82	1548	3.26	1587	3.71	1625	4.16	1663	4.62	1700	5.09	1736	5.57	1771	6.06	1807	6.55	1841	7.05
12000	2434	1639	3.57	1675	4.05	1711	4.53	1747	5.02	1781	5.52	1816	6.03	1849	6.54	1883	7.06	1916	7.59	1948	8.12
13000	2637	1769	4.45	1803	4.96	<b>1837</b>	<b>5.49</b>	<b>1870</b>	<b>6.01</b>	<b>1902</b>	<b>6.55</b>	<b>1934</b>	<b>7.09</b>	1966	7.64	1997	8.20	2028	8.76	2058	9.33
14000	2840	1900	5.47	1932	6.02	1963	6.58	1994	7.15	2024	7.72	2054	8.30	2084	8.88	2113	9.47	2142	10.07	2171	10.67

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	1217	1436	3.64	1482	3.99	1570	4.69														
6300	1278	1457	3.82	1502	4.17	1589	4.90														
6600	1339	1479	4.00	1523	4.36	1609	5.11	1690	5.87												
6900	1400	1502	4.19	1545	4.56	1629	5.33	1709	6.11	1786	6.92										
7200	1460	1525	4.38	1568	4.77	1650	5.55	1729	6.36	1805	7.19	1878	8.04								
7500	1521	1549	4.59	1591	4.98	1672	5.79	1750	6.61	1825	7.46	1897	8.33	1967	9.22						
7800	1582	1574	4.79	1615	5.20	1695	6.03	1772	6.87	1846	7.74	1917	8.63	1986	9.54	2052	10.46				
8100	1643	1600	5.01	1640	5.43	1719	6.27	1794	7.14	1867	8.03	1937	8.94	2005	9.87	2071	10.81	2135	11.77		
8400	1704	1626	5.24	1666	5.66	1743	6.53	1817	7.42	1889	8.33	1958	9.26	2025	10.21	2090	11.17	2154	12.15	2215	13.15
8700	1765	1653	5.47	1692	5.90	1768	6.79	1841	7.71	1911	8.64	1979	9.59	2046	10.55	2110	11.54	2173	12.54	2234	13.56
9000	1826	1680	5.71	1718	6.16	1793	7.07	1865	8.00	1934	8.95	2002	9.92	2067	10.91	2131	11.91	2193	12.93	2253	13.97
9300	1886	1708	5.96	1746	6.42	1819	7.35	1890	8.30	1958	9.27	2024	10.26	2089	11.27	2152	12.30	2213	13.34	2273	14.40
9600	1947	1737	6.22	1773	6.69	1845	7.64	1915	8.61	1982	9.61	2048	10.62	2111	11.65	2173	12.69	2234	13.75	2293	14.83
10100	2049	1785	6.67	1821	7.16	1891	8.14	1958	9.15	2024	10.18	2088	11.23	2150	12.29	2211	13.37	2270	14.47		
10600	2150	1835	7.16	1869	7.66	1937	8.68	2003	9.72	2067	10.78	2130	11.86	2190	12.96	2250	14.08				
11100	2252	1886	7.67	1919	8.18	1985	9.24	2049	10.31	2112	11.41	2173	12.53	2232	13.66	2290	14.81				
11600	2353	1938	8.21	1970	8.74	2034	9.83	2096	10.94	2157	12.07	2217	13.22	2275	14.39						
12100	2454	1991	8.78	2022	9.33	2084	10.45	2145	11.60	2204	12.76	2262	13.95								
12600	2556	2045	9.39	2075	9.96	2135	11.11	2194	12.29	2252	13.49										
13100	2657	2099	10.03	2129	10.62	2188	11.81	2245	13.02												

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 13.40 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
528	100	68	67	67	65	65	59	50	40	68
	80	63	65	66	65	65	62	55	48	69
	70	64	65	66	65	65	62	55	49	69
	60	65	65	66	65	65	62	56	49	69
	50	62	63	65	65	65	62	56	50	69
715	100	73	76	74	73	72	69	61	51	76
	80	68	73	73	72	71	70	65	58	76
	70	69	73	73	72	71	70	65	58	76
	60	69	73	72	72	71	70	65	59	76
	50	67	71	71	72	71	70	65	59	76
900	100	75	83	80	79	77	76	69	59	82
	80	71	79	78	78	76	76	72	65	82
	70	71	79	78	78	76	76	72	65	82
	60	71	80	78	78	76	76	72	66	82
	50	70	77	76	78	76	76	72	66	82
1050	100	77	86	83	82	80	79	74	65	86
	80	73	82	81	81	79	79	76	69	85
	70	73	82	81	81	79	79	76	70	85
	60	73	83	81	81	79	79	76	70	85
	50	73	81	79	80	79	79	76	70	85
1200	100	78	88	86	84	82	81	77	69	88
	80	75	84	84	82	81	80	77	72	87
	70	75	84	84	82	80	80	77	72	86
	60	75	85	84	82	80	80	77	72	86
	50	76	84	83	82	80	80	77	72	86
1350	100	78	89	89	85	83	83	79	72	89
	80	76	86	86	83	81	81	79	73	88
	70	76	86	86	83	81	81	79	73	88
	60	76	86	86	82	81	81	79	73	87
	50	79	87	86	83	81	81	79	73	88

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
1500	100	77	90	91	87	83	84	82	74	91
	80	76	87	89	84	81	82	80	74	89
	70	76	87	89	84	81	82	80	74	89
	60	76	87	89	83	81	81	80	74	88
	50	81	89	89	84	81	82	80	74	89
1650	100	80	90	92	89	85	85	83	75	92
	80	79	87	90	86	82	83	81	75	90
	70	79	87	89	85	82	82	81	75	89
	60	79	87	89	85	82	82	81	75	89
	50	82	88	90	86	83	82	81	75	90
1800	100	83	91	93	91	86	87	85	76	94
	80	81	89	91	88	84	84	83	76	91
	70	81	88	91	87	83	83	82	76	91
	60	82	87	90	87	83	83	82	76	90
	50	84	88	90	87	84	83	83	76	91
1950	100	85	93	95	93	88	88	87	79	96
	80	82	90	93	90	86	86	85	79	93
	70	83	89	92	89	86	85	84	79	93
	60	83	89	92	89	85	85	84	79	92
	50	85	89	92	90	86	85	84	79	93
2100	100	86	94	97	95	91	90	89	82	98
	80	84	91	95	92	88	87	86	81	95
	70	84	91	94	92	88	87	86	81	95
	60	84	90	94	91	87	86	86	81	94
	50	86	91	94	92	88	87	86	81	95
2294	100	87	95	100	97	93	92	91	85	100
	80	85	92	97	94	91	89	88	84	97
	70	86	92	96	94	90	89	88	84	97
	60	86	92	96	94	90	88	88	84	97
	50	88	93	96	94	90	89	88	84	97

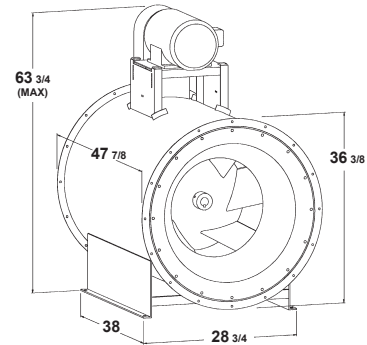
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

# 245

Wheel Diameter = 30.00 in.	Maximum BHP = 2.66 (RPM/1000) <sup>3</sup>
Outlet Area = 5.98 ft. <sup>2</sup>	Max. Motor Frame Size = 326T
Tip Speed, FPM = 7.86 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	482	81	52	1665
II	507	93	58	2082

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

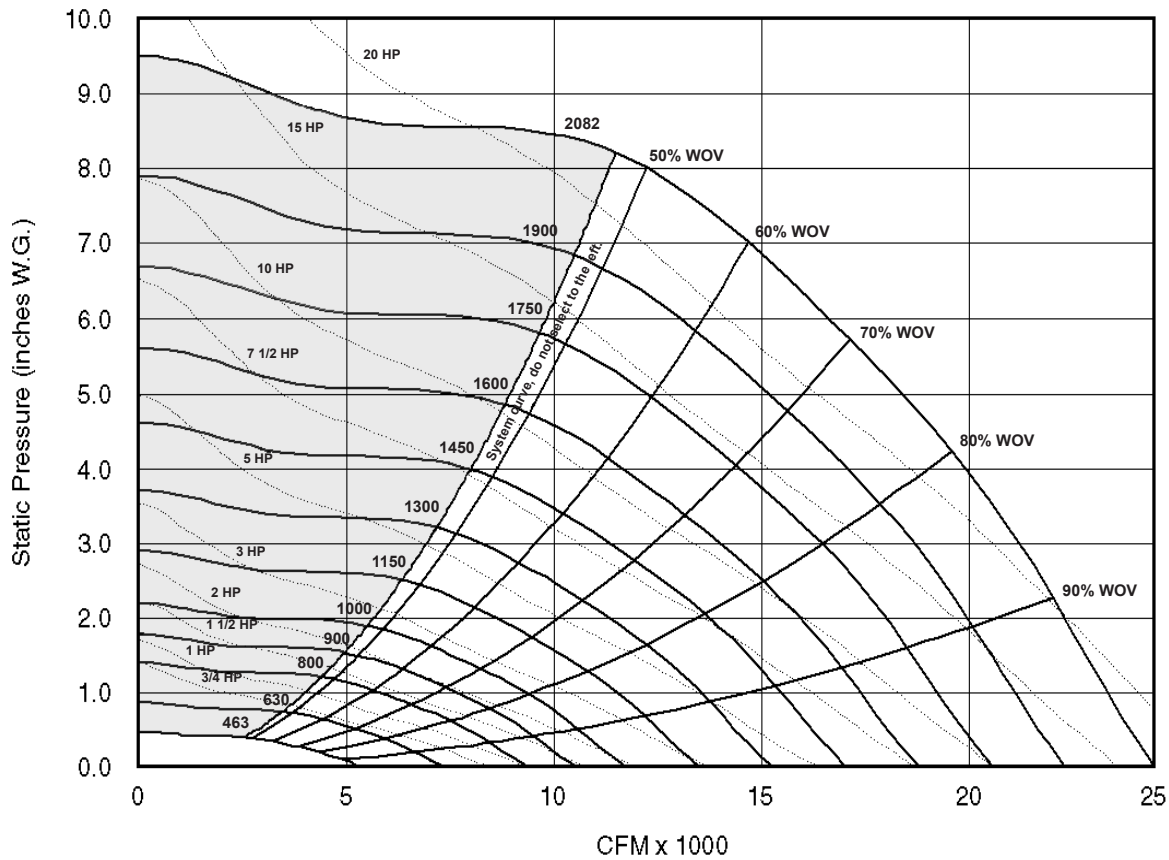
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	502	403	0.17	520	0.36																
3750	627	443	0.23	548	0.43	639	0.66	714	0.89												
4500	753	488	0.29	582	0.52	666	0.77	741	1.04	810	1.33	872	1.62								
5250	878	540	0.38	623	0.63	700	0.91	772	1.20	836	1.50	903	1.87	955	2.17	1008	2.51				
6000	1003	594	0.49	667	0.76	739	1.07	806	1.38	870	1.73	925	2.05	982	2.42	1040	2.84	1085	3.18	1131	3.56
6750	1129	649	0.62	716	0.92	781	1.24	843	1.59	903	1.95	962	2.35	1011	2.69	1061	3.08	1112	3.52	1165	4.00
7500	1254	706	0.78	769	1.10	827	1.44	885	1.82	940	2.20	994	2.60	1049	3.05	1095	3.44	1139	3.84	1184	4.28
8250	1380	769	0.99	823	1.31	876	1.69	929	2.06	982	2.49	1032	2.91	1081	3.34	1130	3.81	1178	4.30	1217	4.72
9000	1505	832	1.23	877	1.55	928	1.95	977	2.36	1025	2.79	1074	3.26	1119	3.71	1164	4.17	1209	4.67	1255	5.22
9750	1630	894	1.52	933	1.83	982	2.25	1027	2.69	1072	3.14	1117	3.61	1161	4.12	1204	4.62	1245	5.10	1286	5.63
10500	1756	957	1.84	990	2.15	1036	2.59	1079	3.06	1121	3.54	1163	4.02	1204	4.53	1246	5.08	1286	5.63	1324	6.14
11250	1881	1020	2.21	1053	2.55	1091	2.97	1133	3.46	1172	3.97	1211	4.48	1250	5.00	1289	5.55	1328	6.14	1366	6.75
12000	2007	1083	2.62	1115	3.00	1147	3.40	1187	3.91	1225	4.44	1262	4.99	1298	5.53	1335	6.09	1371	6.67	1407	7.29
12750	2132	1146	3.08	1178	3.50	1203	3.86	1242	4.41	1279	4.96	1314	5.53	1348	6.12	1383	6.69	1417	7.28	1451	7.90
13500	2258	1209	3.60	1241	4.06	1266	4.45	1298	4.95	1334	5.54	1368	6.13	1400	6.74	1432	7.36	1465	7.96	1498	8.59
14250	2383	1272	4.17	1304	4.67	1328	5.10	1354	5.55	1389	6.16	1422	6.78	1453	7.41	1484	8.05	1515	8.71	1546	9.35
15000	2508	1336	4.79	1366	5.34	1391	5.80	1413	6.23	1444	6.83	1476	7.48	1507	8.14	1537	8.80	1566	9.49	1595	10.18
15750	2634	1399	5.48	1429	6.07	1454	6.57	1475	7.03	1500	7.56	1532	8.24	1562	8.92	1591	9.61	1619	10.32	1647	11.04
16500	2759	1462	6.23	1492	6.87	1517	7.41	1538	7.90	1557	8.36	1587	9.06	1617	9.77	1645	10.49	1673	11.21	1699	11.96
17250	2885	1525	7.04	1555	7.74	1580	8.32	1600	8.84	1619	9.33	1643	9.94	1672	10.68	1700	11.43	1727	12.18	1753	12.94

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7500	1254	1231	4.77	1278	5.30	1354	6.19	1428	7.14												
8000	1338	1247	5.01	1290	5.51	1379	6.65	1447	7.55	1516	8.55										
8500	1421	1269	5.33	1308	5.80	1389	6.86	1472	8.06	1535	9.02	1600	10.08								
9000	1505	1295	5.71	1332	6.17	1406	7.18	1483	8.33	1560	9.60	1620	10.61	1681	11.72	1744	12.93				
9500	1589	1319	6.05	1358	6.60	1427	7.57	1498	8.67	1572	9.91	1645	11.26	1702	12.32	1760	13.47	1819	14.72		
10000	1672	1339	6.34	1380	6.94	1453	8.04	1519	9.10	1587	10.28	1656	11.60	1728	13.05	1781	14.15	1836	15.34	1892	16.62
10500	1756	1362	6.68	1401	7.26	1480	8.55	1543	9.61	1606	10.75	1671	12.01	1738	13.39	1806	14.94	1858	16.11	1910	17.34
11000	1839	1388	7.08	1424	7.64	1499	8.89	1570	10.19	1630	11.30	1690	12.51	1752	13.84	1816	15.29	1881	16.89	1934	18.19
11500	1923	1415	7.51	1450	8.07	1520	9.29	1592	10.65	1656	11.94	1713	13.12	1771	14.39	1830	15.78	1891	17.29	1953	18.93
12000	2007	1444	7.95	1478	8.55	1544	9.74	1612	11.07	1681	12.54	1739	13.80	1794	15.05	1849	16.38	1906	17.83	1964	19.39
12500	2090	1471	8.34	1506	9.03	1571	10.25	1635	11.55	1700	12.98	1767	14.56	1819	15.79	1872	17.09	1925	18.49	1980	19.99
13000	2174	1500	8.77	1533	9.45	1598	10.82	1660	12.10	1722	13.50	1785	15.02	1847	16.61	1897	17.89	1948	19.26	1999	20.71
13500	2258	1530	9.24	1562	9.92	1627	11.38	1686	12.70	1746	14.07	1806	15.57	1867	17.19	1925	18.78	1973	20.12	2022	21.54
14000	2341	1561	9.74	1592	10.42	1654	11.87	1715	13.35	1772	14.71	1829	16.18	1887	17.76	1947	19.47	2000	21.07	2047	22.47
14500	2425	1592	10.28	1623	10.96	1683	12.41	1743	13.97	1799	15.41	1854	16.86	1910	18.41	1966	20.07	2023	21.87	2074	23.49
15000	2508	1625	10.85	1654	11.54	1712	12.99	1770	14.54	1827	16.16	1880	17.60	1934	19.13	1988	20.76	2043	22.51		
15500	2592	1658	11.45	1686	12.15	1743	13.60	1799	15.16	1855	16.82	1908	18.40	1960	19.92	2012	21.53	2064	23.24		
16000	2676	1691	12.08	1719	12.80	1774	14.26	1828	15.82	1883	17.47	1937	19.24	1987	20.77	2037	22.36				
16500	2759	1726	12.71	1752	13.48	1806	14.96	1859	16.52	1911	18.17	1964	19.93	2015	21.68	2064	23.26				
17000	2843	1761	13.37	1786	14.16	1838	15.69	1890	17.26	1941	18.92	1992	20.67	2043	22.53						

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 9.76 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
463	100	69	67	67	65	64	58	49	39	68
	80	64	66	66	65	64	61	54	47	68
	70	65	65	66	65	64	61	54	48	68
	60	65	65	66	65	64	61	55	49	68
	50	63	63	66	65	65	61	55	49	69
630	100	75	76	74	73	72	68	60	50	76
	80	70	73	73	73	72	69	64	57	76
	70	71	73	73	72	72	70	64	58	76
	60	72	73	73	72	72	70	64	58	76
	50	69	71	72	72	72	70	65	58	76
800	100	78	83	80	79	77	75	68	58	82
	80	73	79	79	78	77	76	71	64	82
	70	74	80	79	78	77	76	72	65	82
	60	74	80	78	78	77	76	72	65	82
	50	73	78	77	78	77	76	72	66	82
900	100	79	86	83	82	80	79	72	63	85
	80	75	82	82	81	80	79	75	68	85
	70	75	83	81	81	80	79	75	69	85
	60	75	83	81	81	80	79	75	69	85
	50	74	81	79	81	80	79	75	69	85
1000	100	80	89	86	85	82	82	76	66	88
	80	76	85	84	84	82	82	78	71	88
	70	76	85	84	84	82	82	78	72	88
	60	76	86	83	83	82	82	79	72	88
	50	76	84	82	83	82	82	79	73	88
1150	100	82	91	89	86	84	84	79	71	90
	80	78	87	87	85	83	83	80	74	89
	70	78	87	86	85	83	83	80	74	89
	60	78	88	86	85	83	83	80	74	89
	50	79	86	85	84	83	83	80	74	89

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
1300	100	82	92	92	88	86	85	82	74	92
	80	79	89	89	86	84	84	82	76	91
	70	79	89	89	86	84	84	81	76	90
	60	79	89	89	85	84	84	81	76	90
	50	82	89	89	86	84	84	82	76	91
1450	100	81	94	94	89	86	87	84	77	94
	80	80	90	91	87	84	85	83	77	92
	70	80	90	91	87	84	85	83	77	92
	60	80	91	91	86	84	84	83	77	91
	50	84	92	92	87	84	85	83	77	92
1600	100	83	94	95	91	88	88	86	78	95
	80	82	91	93	89	85	86	84	78	93
	70	82	91	92	88	85	85	84	78	92
	60	82	90	92	88	85	85	84	78	92
	50	86	92	93	89	85	85	84	78	93
1750	100	87	95	96	93	89	89	88	78	96
	80	84	92	94	90	86	87	85	79	94
	70	85	91	93	90	86	86	85	79	93
	60	85	90	93	89	86	86	85	78	93
	50	87	91	93	90	86	86	85	79	93
1900	100	88	96	98	95	91	91	90	81	98
	80	86	93	96	93	89	88	87	81	96
	70	86	92	95	92	88	88	87	81	95
	60	87	92	95	92	88	87	87	81	95
	50	88	92	95	92	89	88	87	81	96
2082	100	90	97	100	98	94	93	92	84	101
	80	87	94	98	95	91	90	89	84	98
	70	88	94	97	95	91	90	89	84	98
	60	88	94	97	94	90	89	89	84	97
	50	90	94	97	95	91	90	89	84	98

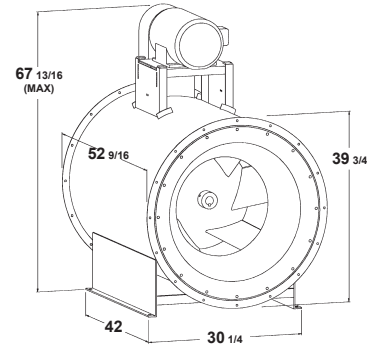
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

## 270

Wheel Diameter = 33.00 in.	Maximum BHP = 4.32 (RPM/1000) <sup>3</sup>
Outlet Area = 7.27 ft. <sup>2</sup>	Max. Motor Frame Size = 326T
Tip Speed, FPM = 8.64 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	623	99	80	1476
II	656	114	88	1846

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F. From 101°F through 200°F multiply RPM by 0.93.

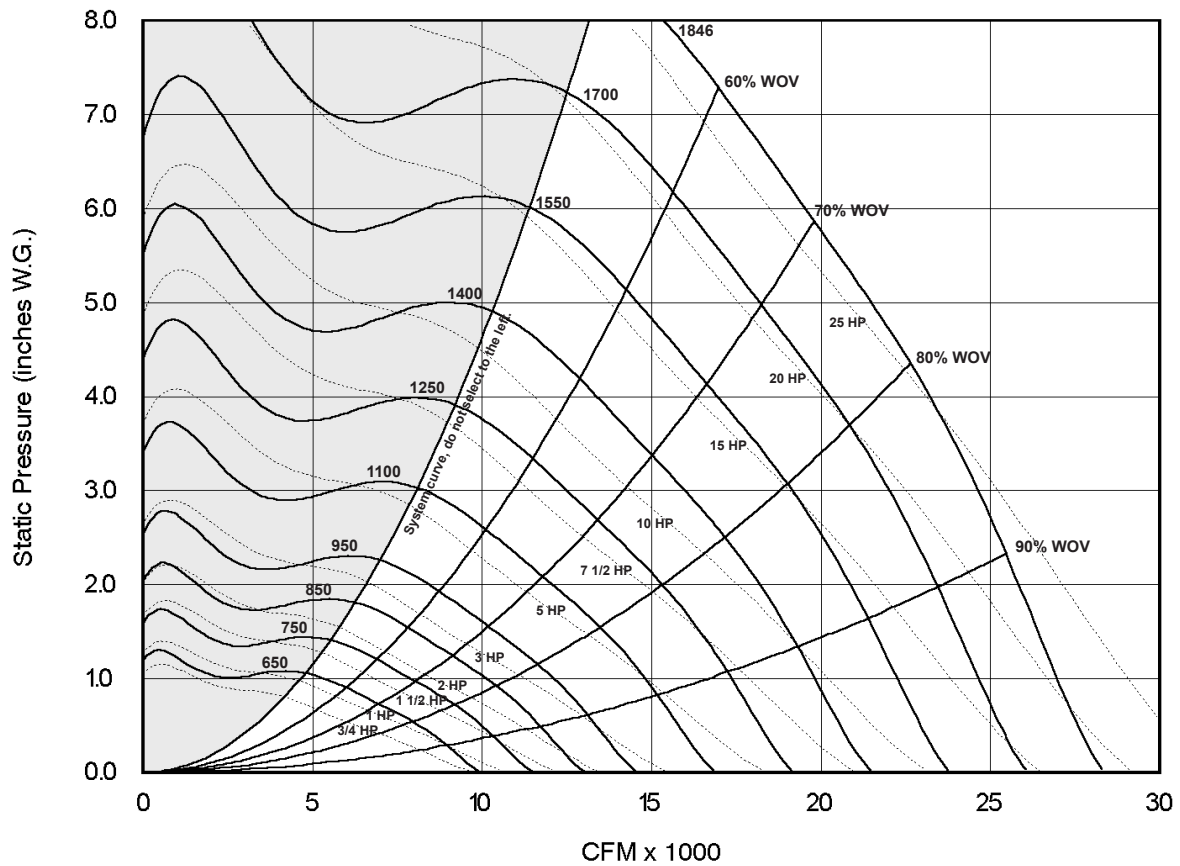
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	619	398	0.26	484	0.48	558	0.73														
5000	688	420	0.31	504	0.55	574	0.81	639	1.09												
5500	757	444	0.35	525	0.61	592	0.89	653	1.18												
6000	825	469	0.41	546	0.69	612	0.98	671	1.29	726	1.62										
6500	894	496	0.47	568	0.77	633	1.08	689	1.40	742	1.74	793	2.11								
7000	963	523	0.54	591	0.85	654	1.19	710	1.53	761	1.88	809	2.26	856	2.65						
7500	1032	552	0.62	615	0.95	676	1.30	730	1.66	780	2.03	827	2.42	872	2.82	916	3.24	959	3.68		
8000	1100	581	0.71	639	1.05	698	1.42	751	1.80	800	2.19	846	2.59	889	3.01	931	3.44	972	3.89	1013	4.36
8500	1169	611	0.82	665	1.16	721	1.55	773	1.95	821	2.36	866	2.78	908	3.21	949	3.65	988	4.11	1027	4.58
9000	1238	641	0.93	691	1.28	744	1.68	795	2.11	843	2.54	887	2.98	928	3.42	968	3.88	1006	4.35	1043	4.83
10000	1376	703	1.19	746	1.56	793	1.99	841	2.45	886	2.92	929	3.40	969	3.88	1008	4.37	1044	4.87	1079	5.38
11000	1513	765	1.51	803	1.90	845	2.35	888	2.83	932	3.34	973	3.86	1012	4.39	1049	4.92	1085	5.45	1119	6.00
12000	1651	829	1.88	863	2.30	900	2.76	939	3.27	979	3.81	1018	4.36	1056	4.93	1092	5.50	1127	6.08	1161	6.66
13000	1788	893	2.32	923	2.76	956	3.24	992	3.77	1028	4.33	1065	4.92	1101	5.52	1137	6.14	1171	6.75	1203	7.38
14000	1926	957	2.83	985	3.29	1015	3.79	1047	4.34	1080	4.92	1114	5.53	1149	6.17	1182	6.82	1215	7.48	1247	8.14
15000	2063	1022	3.41	1047	3.89	1075	4.42	1104	4.98	1134	5.59	1166	6.22	1197	6.88	1229	7.56	1261	8.26	1292	8.96
16000	2201	1086	4.06	1110	4.58	1136	5.13	1162	5.71	1190	6.33	1219	6.99	1248	7.67	1278	8.38	1308	9.10	1338	9.84
17000	2338	1151	4.81	1174	5.35	1197	5.92	1222	6.52	1247	7.16	1274	7.84	1301	8.54	1329	9.27	1357	10.03	1386	10.80
18000	2476	1217	5.64	1238	6.21	1260	6.80	1282	7.43	1306	8.09	1330	8.78	1356	9.50	1382	10.26	1408	11.03	1435	11.83
19000	2613	1282	6.57	1302	7.16	1322	7.78	1344	8.43	1366	9.11	1388	9.82	1412	10.56	1436	11.33	1461	12.13	1486	12.95

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9400	1293	1093	5.55	1128	6.08	1197	7.18														
9800	1348	1107	5.79	1141	6.32	1208	7.43														
10200	1403	1121	6.03	1155	6.57	1220	7.69	1283	8.87												
10600	1458	1136	6.28	1169	6.83	1233	7.97	1295	9.16												
11000	1513	1152	6.55	1184	7.11	1246	8.27	1307	9.47	1366	10.73										
11500	1582	1172	6.89	1204	7.47	1265	8.65	1323	9.88	1381	11.16	1437	12.49								
12000	1651	1193	7.25	1224	7.84	1284	9.06	1341	10.31	1397	11.60	1452	12.95	1506	14.34						
12500	1719	1214	7.62	1244	8.23	1303	9.48	1360	10.76	1414	12.08	1468	13.44	1520	14.85	1572	16.31				
13000	1788	1235	8.01	1265	8.64	1323	9.92	1379	11.23	1433	12.57	1485	13.96	1536	15.38	1586	16.86	1636	18.38		
13500	1857	1256	8.40	1286	9.06	1344	10.37	1399	11.72	1451	13.09	1503	14.50	1552	15.95	1601	17.43	1650	18.97	1698	20.55
14000	1926	1278	8.81	1308	9.49	1365	10.85	1419	12.22	1471	13.63	1521	15.06	1570	16.53	1618	18.04	1665	19.59	1712	21.19
14500	1994	1300	9.24	1329	9.93	1386	11.33	1440	12.75	1491	14.19	1540	15.65	1588	17.15	1635	18.68	1682	20.25	1727	21.86
15000	2063	1322	9.67	1351	10.39	1407	11.83	1461	13.29	1511	14.76	1560	16.26	1608	17.79	1654	19.34	1699	20.93	1744	22.56
15500	2132	1344	10.13	1373	10.86	1429	12.34	1482	13.84	1532	15.36	1580	16.89	1627	18.45	1673	20.03	1717	21.65	1761	23.30
16000	2201	1367	10.59	1396	11.35	1451	12.87	1503	14.41	1553	15.97	1601	17.54	1647	19.13	1692	20.74	1736	22.39	1779	24.06
16500	2270	1390	11.08	1418	11.85	1473	13.42	1525	15.00	1574	16.59	1622	18.20	1667	19.83	1712	21.48	1755	23.15	1797	24.85
17000	2338	1414	11.58	1441	12.37	1495	13.98	1546	15.60	1595	17.24	1643	18.88	1688	20.55	1732	22.23	1775	23.94	1817	25.67
17500	2407	1437	12.10	1464	12.91	1517	14.56	1568	16.22	1617	17.90	1664	19.59	1709	21.29	1752	23.01	1795	24.75	1836	26.51
18000	2476	1461	12.64	1488	13.47	1540	15.15	1590	16.85	1639	18.57	1685	20.30	1730	22.05	1773	23.81	1815	25.58		
18500	2545	1486	13.21	1512	14.05	1563	15.76	1613	17.51	1661	19.27	1707	21.04	1751	22.82	1794	24.62	1836	26.43		

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 6.67 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
398	100	67	64	64	65	64	56	48	39	67
	80	64	62	62	64	62	56	49	41	66
	70	64	62	62	63	62	57	49	41	66
	60	63	61	62	63	62	57	49	41	66
	50	65	63	64	64	63	57	49	41	66
525	100	73	73	70	71	70	65	57	48	74
	80	70	70	69	69	69	65	58	50	73
	70	69	69	68	69	69	65	58	50	73
	60	69	69	68	69	69	65	58	50	73
	50	71	71	70	70	70	66	58	50	74
650	100	75	79	76	75	75	72	64	56	79
	80	73	77	74	74	74	71	65	57	78
	70	73	76	73	74	74	71	65	57	78
	60	72	75	73	74	74	72	65	57	78
	50	76	77	75	75	75	72	65	57	79
750	100	76	84	79	78	78	77	69	61	83
	80	76	81	77	77	77	76	70	62	82
	70	75	80	77	77	77	76	70	62	82
	60	75	79	76	77	77	76	70	62	82
	50	79	81	78	78	78	76	70	62	82
850	100	77	88	82	81	81	81	73	65	86
	80	78	85	80	79	80	80	74	66	85
	70	77	84	80	79	80	80	74	66	85
	60	77	83	79	79	80	80	74	66	85
	50	82	85	81	81	81	80	74	66	86
950	100	79	89	85	83	83	82	76	67	88
	80	79	86	83	81	81	81	75	68	86
	70	79	85	82	81	81	80	75	68	86
	60	79	85	81	80	81	80	76	69	86
	50	83	86	82	82	82	81	76	69	87

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
1100	100	81	92	88	86	85	85	78	70	91
	80	82	89	85	83	83	82	77	70	88
	70	81	88	84	82	83	82	77	71	88
	60	80	88	83	82	82	82	77	71	88
	50	83	89	83	82	83	82	78	71	88
1250	100	81	95	90	88	87	87	81	73	93
	80	83	91	86	85	85	84	79	72	90
	70	82	91	85	84	84	83	79	72	89
	60	81	90	84	82	83	83	79	73	89
	50	83	90	83	83	83	83	79	73	89
1400	100	83	94	94	91	90	89	84	75	95
	80	84	91	90	87	87	86	81	74	92
	70	84	91	88	86	86	85	80	74	91
	60	83	90	87	85	85	84	80	74	90
	50	85	90	87	85	84	84	80	74	90
1550	100	85	94	97	94	92	91	87	77	98
	80	85	91	93	90	88	88	82	75	94
	70	86	90	92	89	87	87	81	75	93
	60	86	90	91	87	86	86	81	74	92
	50	88	90	90	87	86	86	81	75	92
1700	100	86	94	100	97	94	93	90	79	100
	80	87	91	95	93	90	90	83	76	96
	70	88	90	95	92	88	89	83	76	95
	60	89	90	94	90	87	88	82	75	94
	50	91	90	93	90	87	88	82	75	94
1846	100	87	95	102	99	96	95	92	82	102
	80	88	92	97	96	92	92	86	79	98
	70	89	92	96	94	91	91	85	78	97
	60	90	92	95	92	89	90	84	77	96
	50	92	93	94	92	89	89	85	78	95

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

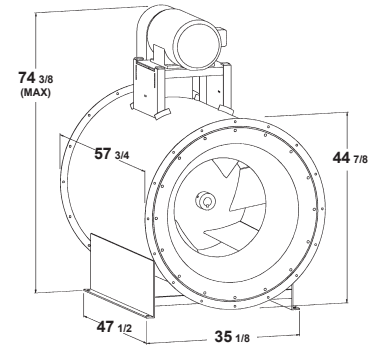


# ESI - Performance Data

Efficient Silent Inline Fan

# 300

Wheel Diameter = 36.50 in.	Maximum BHP = 7.16 (RPM/1000) <sup>3</sup>
Outlet Area = 8.97 ft. <sup>2</sup>	Max. Motor Frame Size = 365T
Tip Speed, FPM = 9.55 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	853	140	130	1330
II	898	165	144	1662

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

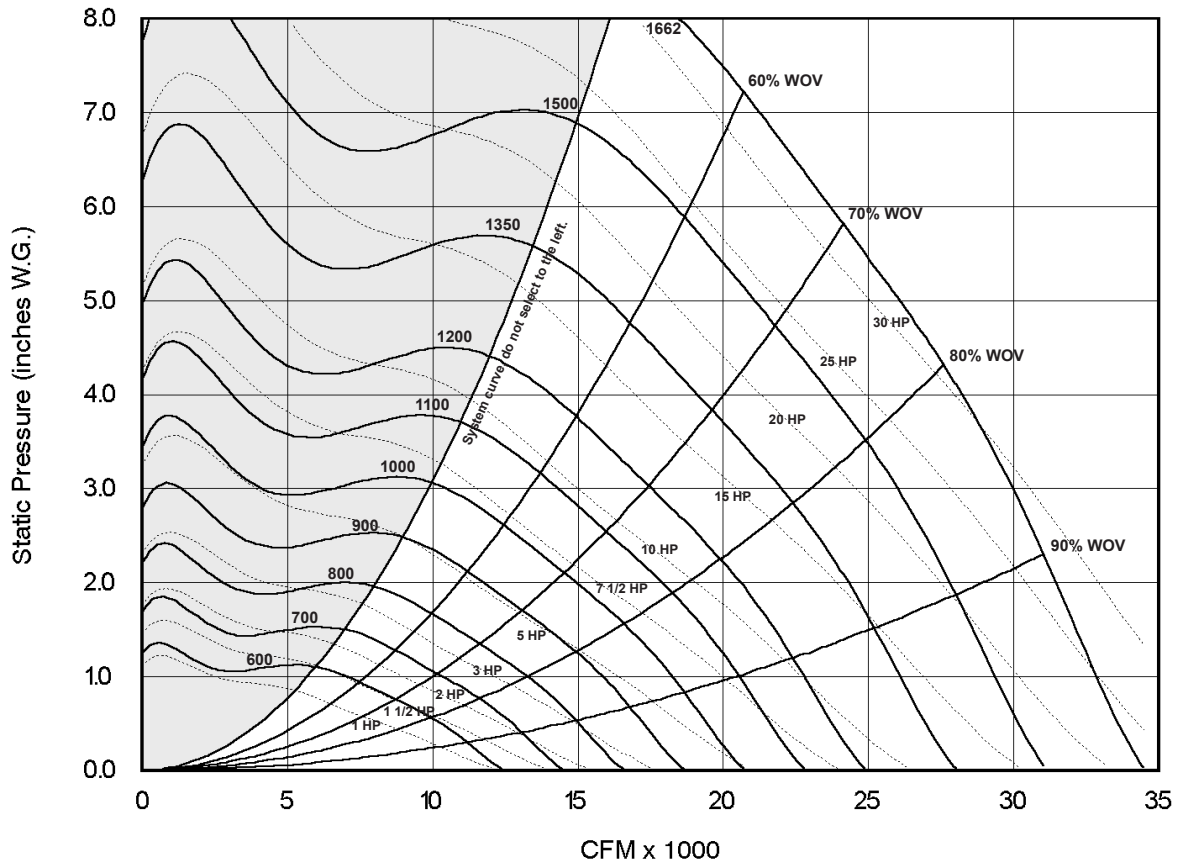
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5200	580	350	0.30	429	0.56																
5800	647	369	0.35	446	0.63	511	0.94														
6400	713	390	0.40	464	0.71	526	1.03	583	1.39												
7000	780	412	0.46	483	0.79	543	1.14	597	1.50	649	1.90										
7600	847	434	0.53	502	0.88	561	1.25	613	1.63	662	2.04	710	2.48								
8200	914	458	0.61	522	0.98	580	1.37	631	1.78	678	2.20	723	2.65	766	3.12						
8800	981	483	0.70	543	1.09	599	1.50	649	1.93	694	2.37	738	2.83	779	3.32	820	3.83				
9400	1048	509	0.80	564	1.20	618	1.64	667	2.09	712	2.56	754	3.03	794	3.53	833	4.05	871	4.60		
10000	1115	535	0.92	586	1.33	638	1.79	686	2.27	730	2.75	771	3.25	810	3.76	847	4.29	884	4.85	920	5.42
11000	1226	579	1.13	624	1.57	672	2.06	719	2.57	761	3.10	801	3.64	839	4.18	875	4.74	909	5.32	943	5.91
12000	1338	625	1.39	665	1.84	708	2.36	752	2.91	794	3.48	833	4.05	869	4.64	904	5.23	937	5.83	969	6.45
13000	1449	671	1.69	707	2.16	746	2.70	787	3.28	827	3.89	865	4.50	900	5.13	934	5.76	967	6.40	998	7.05
14000	1561	717	2.04	750	2.53	786	3.09	823	3.69	861	4.33	898	4.99	933	5.65	966	6.33	998	7.00	1028	7.69
15000	1672	764	2.43	794	2.95	827	3.52	861	4.15	896	4.82	931	5.51	965	6.22	998	6.93	1029	7.65	1059	8.37
16000	1784	812	2.88	839	3.42	869	4.02	900	4.66	933	5.35	966	6.07	999	6.82	1031	7.57	1062	8.33	1091	9.10
17000	1895	859	3.39	885	3.95	912	4.57	941	5.23	972	5.94	1003	6.69	1034	7.46	1065	8.25	1094	9.05	1123	9.86
18000	2007	907	3.95	931	4.54	956	5.18	983	5.86	1011	6.59	1040	7.36	1070	8.16	1099	8.98	1128	9.82	1156	10.67
19000	2118	955	4.58	977	5.20	1001	5.85	1026	6.56	1052	7.31	1079	8.09	1107	8.92	1135	9.77	1163	10.64	1190	11.53
20000	2230	1003	5.28	1024	5.92	1046	6.60	1069	7.32	1094	8.09	1119	8.90	1145	9.74	1172	10.62	1198	11.52	1225	12.44
21000	2341	1051	6.04	1071	6.71	1092	7.41	1114	8.16	1136	8.94	1160	9.77	1185	10.64	1209	11.54	1235	12.46	1260	13.41

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11500	1282	988	6.80	1020	7.44	1082	8.78														
12000	1338	1001	7.09	1032	7.74	1092	9.09														
12500	1394	1014	7.39	1044	8.05	1103	9.42	1161	10.87												
13000	1449	1028	7.71	1058	8.38	1115	9.78	1171	11.24	1226	12.77										
13500	1505	1043	8.04	1072	8.73	1128	10.14	1183	11.62	1236	13.17										
14000	1561	1058	8.38	1086	9.09	1142	10.53	1195	12.03	1247	13.59	1298	15.21								
14500	1616	1073	8.74	1101	9.46	1155	10.93	1208	12.45	1259	14.03	1309	15.67	1358	17.38						
15000	1672	1088	9.10	1116	9.84	1170	11.35	1221	12.90	1271	14.49	1320	16.15	1368	17.87	1416	19.65				
15500	1728	1104	9.48	1131	10.24	1184	11.78	1235	13.36	1284	14.98	1332	16.65	1379	18.38	1425	20.17				
16000	1784	1119	9.87	1147	10.65	1199	12.22	1250	13.83	1298	15.48	1345	17.18	1391	18.92	1436	20.73	1481	22.59		
16500	1839	1135	10.27	1163	11.06	1215	12.68	1264	14.32	1312	16.00	1358	17.72	1403	19.49	1448	21.31	1491	23.19	1535	25.12
17000	1895	1151	10.68	1178	11.49	1230	13.15	1279	14.82	1326	16.53	1372	18.28	1416	20.08	1460	21.92	1503	23.81	1545	25.75
17500	1951	1167	11.10	1194	11.93	1246	13.63	1294	15.34	1341	17.09	1386	18.86	1430	20.68	1472	22.54	1514	24.45	1556	26.41
18000	2007	1184	11.53	1210	12.39	1261	14.12	1310	15.87	1356	17.65	1400	19.46	1443	21.31	1486	23.19	1527	25.12	1568	27.10
19000	2118	1217	12.42	1243	13.32	1293	15.14	1341	16.98	1386	18.83	1430	20.71	1472	22.62	1513	24.56	1553	26.54	1593	28.56
20000	2230	1251	13.37	1276	14.31	1325	16.21	1372	18.13	1417	20.06	1460	22.02	1502	23.99	1542	26.00	1581	28.03	1620	30.10
21000	2341	1285	14.38	1310	15.35	1358	17.33	1405	19.33	1449	21.35	1491	23.38	1532	25.44	1572	27.51	1611	29.61	1648	31.74
22000	2453	1321	15.44	1345	16.45	1392	18.51	1437	20.59	1481	22.69	1523	24.81	1563	26.94	1603	29.09	1641	31.26		
23000	2564	1357	16.58	1380	17.62	1426	19.75	1470	21.91	1513	24.09	1555	26.29	1595	28.50	1634	30.73				
24000	2676	1394	17.80	1417	18.86	1461	21.05	1504	23.28	1546	25.55	1587	27.83	1627	30.13						

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

**% WOV = 4.92 (CFM/RPM)**

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
350	100	67	64	64	65	63	55	46	38	67
	80	64	63	63	64	62	55	47	40	66
	70	63	62	63	64	62	55	48	40	66
	60	63	61	63	64	62	56	48	40	66
	50	65	63	64	64	62	56	48	40	66
475	100	75	73	71	72	71	65	57	48	74
	80	72	71	70	70	70	65	58	50	73
	70	71	70	69	70	70	65	58	50	73
	60	71	69	69	70	70	65	58	50	73
	50	72	71	71	71	71	66	58	50	74
600	100	78	80	77	76	77	73	65	56	80
	80	76	78	75	75	75	72	65	57	79
	70	75	77	75	75	75	72	65	58	79
	60	75	76	74	75	75	72	66	58	79
	50	77	78	76	76	76	73	66	58	80
700	100	79	85	81	80	80	78	70	61	84
	80	78	82	79	78	79	77	70	63	83
	70	78	82	78	78	79	77	70	63	83
	60	77	81	78	78	79	77	71	63	83
	50	81	83	80	80	79	77	71	63	84
800	100	80	89	84	82	83	82	74	66	88
	80	80	86	82	81	82	81	75	67	87
	70	80	86	81	81	82	81	75	67	87
	60	80	85	81	81	82	81	75	67	87
	50	84	87	83	83	83	81	75	67	87
900	100	82	92	87	85	85	85	78	69	90
	80	82	89	85	83	84	83	78	70	89
	70	82	88	84	83	84	83	78	70	89
	60	82	87	83	83	83	83	78	71	88
	50	86	89	85	85	84	84	78	71	90

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
1000	100	84	94	89	87	87	86	80	72	92
	80	84	90	87	85	85	84	79	72	90
	70	83	90	86	85	85	84	79	72	90
	60	83	89	85	84	84	84	79	73	89
	50	87	90	86	85	85	84	80	73	90
1100	100	85	96	91	89	88	88	82	73	94
	80	85	92	88	86	86	85	80	74	91
	70	85	92	87	86	86	85	80	74	91
	60	84	91	86	85	85	85	80	74	91
	50	87	92	87	86	86	85	81	74	91
1200	100	85	97	93	91	90	89	83	75	95
	80	86	94	89	87	87	86	82	75	92
	70	85	93	88	86	87	86	81	75	92
	60	85	93	87	85	86	86	81	75	91
	50	87	93	87	86	86	86	82	76	92
1350	100	86	98	95	93	92	92	86	77	98
	80	88	95	92	90	89	88	83	76	94
	70	87	94	90	88	88	87	83	76	93
	60	86	94	89	87	87	87	82	76	93
	50	88	94	89	87	87	87	83	77	93
1500	100	88	97	99	96	94	94	89	80	100
	80	89	94	95	93	91	90	85	78	97
	70	89	94	94	91	90	89	84	77	95
	60	88	93	93	90	89	88	84	77	95
	50	90	94	92	90	88	88	84	77	94
1662	100	89	97	103	99	96	96	92	82	103
	80	90	94	98	96	93	92	86	79	99
	70	91	94	97	94	91	91	85	78	97
	60	91	93	96	92	90	91	85	78	97
	50	94	94	95	92	90	90	85	78	96

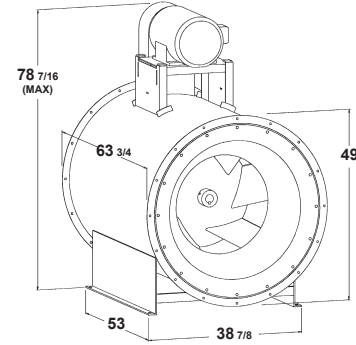
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

## 330

Wheel Diameter = 40.25 in.	Maximum BHP = 11.68 (RPM/1000) <sup>3</sup>
Outlet Area = 10.80 ft. <sup>2</sup>	Max. Motor Frame Size = 365T
Tip Speed, FPM = 10.54 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	999	184	221	1208
II	1052	212	230	1510

- ① WR<sup>2</sup> = Inertial Starting Force
- ② Maximum RPM is based on operating temperature of 100°F. From 101°F through 200°F multiply RPM by 0.93.

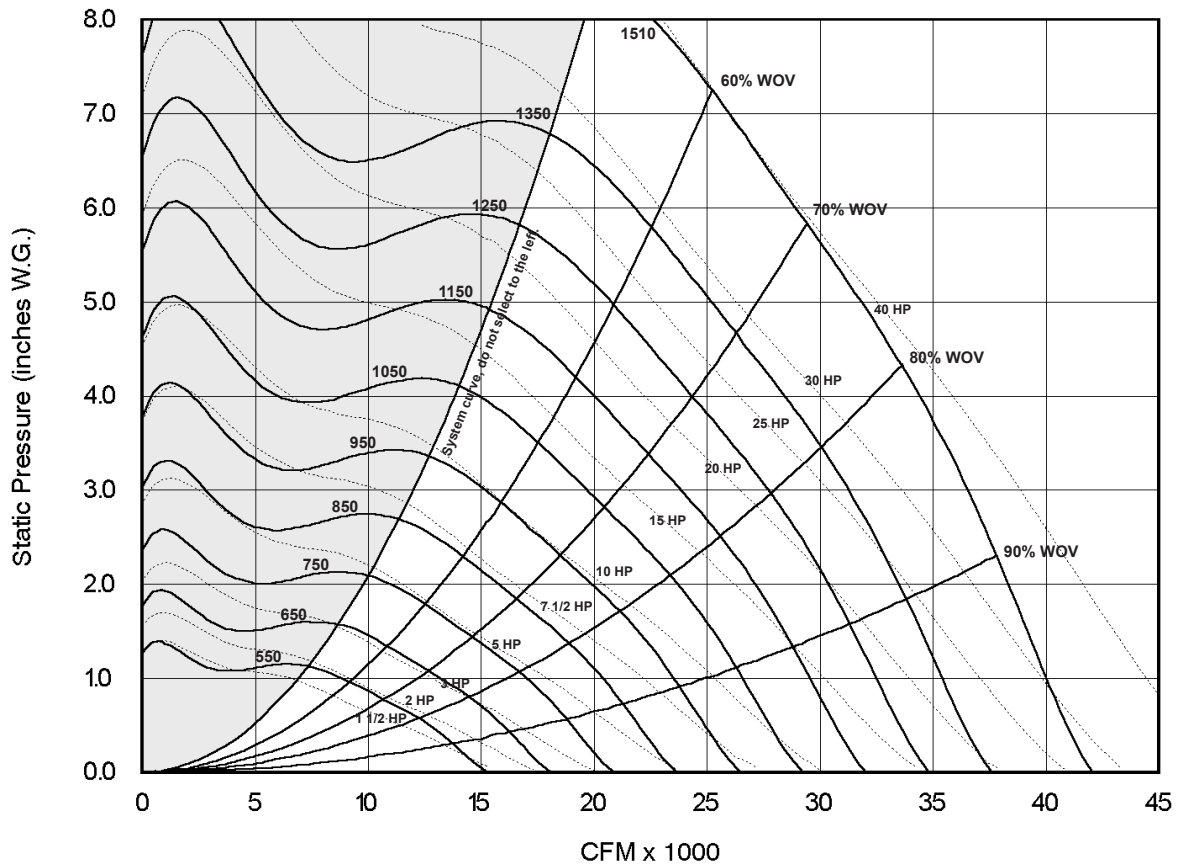
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6500	602	321	0.38	393	0.70	455	1.06														
7200	667	339	0.43	408	0.78	466	1.16														
7900	731	357	0.50	424	0.87	480	1.27	531	1.71												
8600	796	376	0.57	440	0.97	494	1.40	543	1.85	590	2.33										
9300	861	396	0.65	457	1.08	510	1.53	557	2.00	602	2.50	644	3.03								
10000	926	416	0.75	474	1.20	526	1.68	572	2.17	615	2.68	656	3.23	695	3.81						
11000	1019	447	0.90	500	1.38	550	1.90	595	2.43	636	2.98	675	3.54	712	4.14	748	4.76				
12000	1111	480	1.08	527	1.58	575	2.14	618	2.71	658	3.29	696	3.89	731	4.51	765	5.16	799	5.83	832	6.52
13000	1204	513	1.29	555	1.81	600	2.40	642	3.01	682	3.64	718	4.27	752	4.92	785	5.59	817	6.28	848	6.99
14000	1296	546	1.53	585	2.07	626	2.68	667	3.34	705	4.00	741	4.68	775	5.36	807	6.06	837	6.78	867	7.52
15000	1389	580	1.81	615	2.37	654	3.00	692	3.69	730	4.39	765	5.11	798	5.84	829	6.57	859	7.32	888	8.08
16000	1481	615	2.12	647	2.70	682	3.35	719	4.07	755	4.81	789	5.57	821	6.34	852	7.11	881	7.89	909	8.69
17000	1574	650	2.47	679	3.07	712	3.74	746	4.48	780	5.26	813	6.05	845	6.86	875	7.68	904	8.50	932	9.33
18000	1667	685	2.86	712	3.48	742	4.18	774	4.93	806	5.74	839	6.57	870	7.42	899	8.28	928	9.14	955	10.01
19000	1759	720	3.29	746	3.94	773	4.65	803	5.43	834	6.26	864	7.12	894	8.01	924	8.91	952	9.81	979	10.73
20000	1852	755	3.77	779	4.44	805	5.17	833	5.97	862	6.82	891	7.71	920	8.63	948	9.57	976	10.52	1002	11.47
21000	1944	791	4.30	813	4.99	838	5.74	864	6.56	891	7.43	918	8.35	946	9.30	974	10.27	1001	11.26	1027	12.25
22000	2037	826	4.87	848	5.59	871	6.37	895	7.20	920	8.09	947	9.03	973	10.01	1000	11.01	1026	12.03	1051	13.07
23000	2130	862	5.50	882	6.25	904	7.04	927	7.90	951	8.81	976	9.76	1001	10.76	1026	11.80	1052	12.85	1076	13.93
24000	2222	898	6.19	917	6.95	938	7.78	959	8.65	982	9.58	1005	10.55	1029	11.58	1054	12.63	1078	13.72	1102	14.83

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
15000	1389	916	8.86	943	9.66	997	11.32	1050	13.08												
15500	1435	926	9.18	953	9.99	1006	11.67	1057	13.43												
16000	1481	937	9.50	963	10.32	1015	12.03	1065	13.81	1115	15.68										
16500	1528	948	9.83	974	10.67	1025	12.40	1074	14.20	1122	16.08										
17000	1574	959	10.18	985	11.03	1035	12.79	1083	14.61	1130	16.50	1177	18.48								
17500	1620	970	10.53	996	11.40	1045	13.19	1093	15.03	1139	16.94	1185	18.93	1230	21.00						
18000	1667	981	10.89	1007	11.78	1056	13.60	1103	15.47	1148	17.40	1193	19.40	1237	21.49						
18500	1713	993	11.27	1018	12.17	1066	14.02	1113	15.92	1158	17.87	1202	19.90	1245	21.99	1287	24.16				
19000	1759	1004	11.65	1029	12.57	1077	14.46	1123	16.38	1168	18.36	1211	20.41	1253	22.52	1295	24.70	1336	26.96		
20000	1852	1028	12.43	1053	13.40	1100	15.36	1145	17.35	1188	19.39	1230	21.48	1271	23.63	1312	25.84	1351	28.12	1391	30.47
21000	1944	1052	13.26	1076	14.26	1123	16.30	1167	18.36	1210	20.47	1251	22.61	1291	24.81	1330	27.06	1368	29.37	1406	31.74
22000	2037	1076	14.11	1100	15.16	1146	17.28	1190	19.42	1232	21.60	1272	23.80	1311	26.05	1349	28.35	1387	30.71	1424	33.11
23000	2130	1101	15.01	1125	16.10	1170	18.30	1213	20.53	1255	22.77	1294	25.05	1333	27.36	1370	29.72	1407	32.12	1442	34.57
24000	2222	1126	15.95	1149	17.08	1194	19.37	1237	21.67	1278	24.00	1317	26.35	1355	28.73	1391	31.14	1427	33.60	1462	36.10
25000	2315	1151	16.93	1174	18.10	1218	20.47	1261	22.86	1301	25.26	1340	27.69	1377	30.15	1414	32.63	1449	35.15	1483	37.70
26000	2407	1178	17.97	1200	19.17	1243	21.61	1285	24.09	1325	26.58	1363	29.09	1400	31.62	1436	34.18	1471	36.76	1505	39.38
27000	2500	1204	19.05	1226	20.29	1268	22.81	1309	25.36	1349	27.94	1387	30.53	1424	33.14	1459	35.77	1493	38.43		
28000	2593	1231	20.20	1252	21.47	1294	24.05	1334	26.68	1373	29.34	1411	32.02	1447	34.71	1482	37.42				
29000	2685	1259	21.41	1279	22.70	1320	25.35	1359	28.06	1398	30.79	1435	33.55	1471	36.33	1506	39.13				
30000	2778	1288	22.69	1307	24.01	1346	26.71	1385	29.48	1423	32.30	1459	35.14	1495	38.00						

- Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.
- 2) Power rating (BHP) does not include belt drive losses.
- 3) Performance ratings do not include the effects of appurtenances in the airstream.
- 4) Bold figures indicate range of highest static efficiency.
- 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 3.67 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
322	100	68	66	65	66	63	55	46	38	67
	80	65	64	64	65	62	55	48	40	66
	70	64	63	64	65	62	56	48	40	66
	60	64	63	64	65	62	56	48	40	66
	50	66	65	65	66	63	56	48	40	67
435	100	77	73	72	73	72	65	57	48	75
	80	74	71	71	72	71	65	58	50	74
	70	73	70	70	71	71	65	58	50	74
	60	73	70	70	71	71	66	58	50	74
	50	74	72	72	72	72	66	58	50	75
550	100	81	81	78	78	78	73	65	56	81
	80	78	78	76	76	76	72	65	58	80
	70	77	77	76	76	76	73	66	58	80
	60	77	77	75	76	76	73	66	58	80
	50	79	79	77	78	77	73	66	58	81
650	100	82	86	82	81	81	78	70	62	85
	80	81	83	80	80	80	77	71	63	84
	70	80	83	80	80	80	78	71	63	84
	60	80	82	79	80	80	78	71	63	84
	50	83	84	81	81	81	78	71	63	85
750	100	83	90	86	84	84	83	75	67	89
	80	83	88	84	83	83	82	76	68	88
	70	82	87	83	83	83	82	76	68	88
	60	82	86	82	83	83	82	76	68	88
	50	86	88	84	84	84	82	76	68	88
850	100	84	94	89	87	87	87	79	71	92
	80	85	91	87	86	86	86	80	72	91
	70	84	91	86	85	86	86	80	72	91
	60	84	90	85	85	86	86	80	72	91
	50	89	92	87	87	87	86	80	72	92

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
950	100	86	96	91	89	89	88	82	73	94
	80	86	93	89	87	87	87	81	74	92
	70	86	92	88	87	87	87	81	74	92
	60	86	91	87	86	87	86	82	75	92
	50	90	93	89	88	88	87	82	75	93
1050	100	88	98	94	91	91	90	84	75	96
	80	88	95	90	89	89	88	83	76	94
	70	87	94	89	88	88	87	83	76	93
	60	87	93	88	87	88	87	83	76	93
	50	90	94	89	88	88	88	83	77	94
1150	100	88	100	95	93	92	91	85	77	97
	80	89	96	92	90	90	89	84	77	95
	70	88	96	90	89	89	88	84	77	94
	60	88	95	89	88	89	88	84	78	94
	50	90	96	90	89	89	88	84	78	94
1250	100	89	101	96	94	94	93	87	79	99
	80	90	98	92	91	91	90	85	78	96
	70	89	97	91	90	90	89	85	78	95
	60	88	97	90	89	89	89	85	79	95
	50	90	97	90	89	89	89	85	79	95
1350	100	89	101	98	96	95	95	89	80	101
	80	91	98	95	93	92	91	86	79	97
	70	90	97	93	91	91	90	86	79	96
	60	89	97	92	90	90	90	85	79	96
	50	91	97	92	90	90	90	86	80	96
1510	100	91	101	103	99	97	97	92	83	103
	80	92	98	99	96	94	93	88	81	100
	70	92	97	97	94	93	92	87	81	98
	60	92	96	96	93	92	92	87	80	98
	50	94	97	96	93	91	91	87	80	97

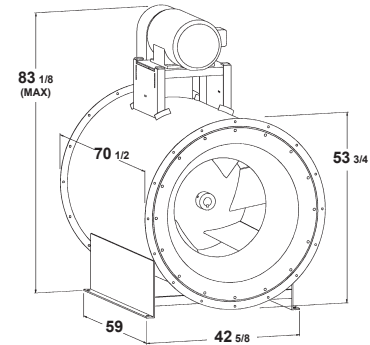
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

## 365

Wheel Diameter = 44.50 in.	Maximum BHP = 19.30 (RPM/1000) <sup>3</sup>
Outlet Area = 13.3 ft. <sup>2</sup>	Max. Motor Frame Size = 365T
Tip Speed, FPM = 11.65 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	1101	239	338	1072
II	1159	257	348	1341

- ① WR<sup>2</sup> = Inertial Starting Force
- ② Maximum RPM is based on operating temperature of 100°F. From 101°F through 200°F multiply RPM by 0.93.

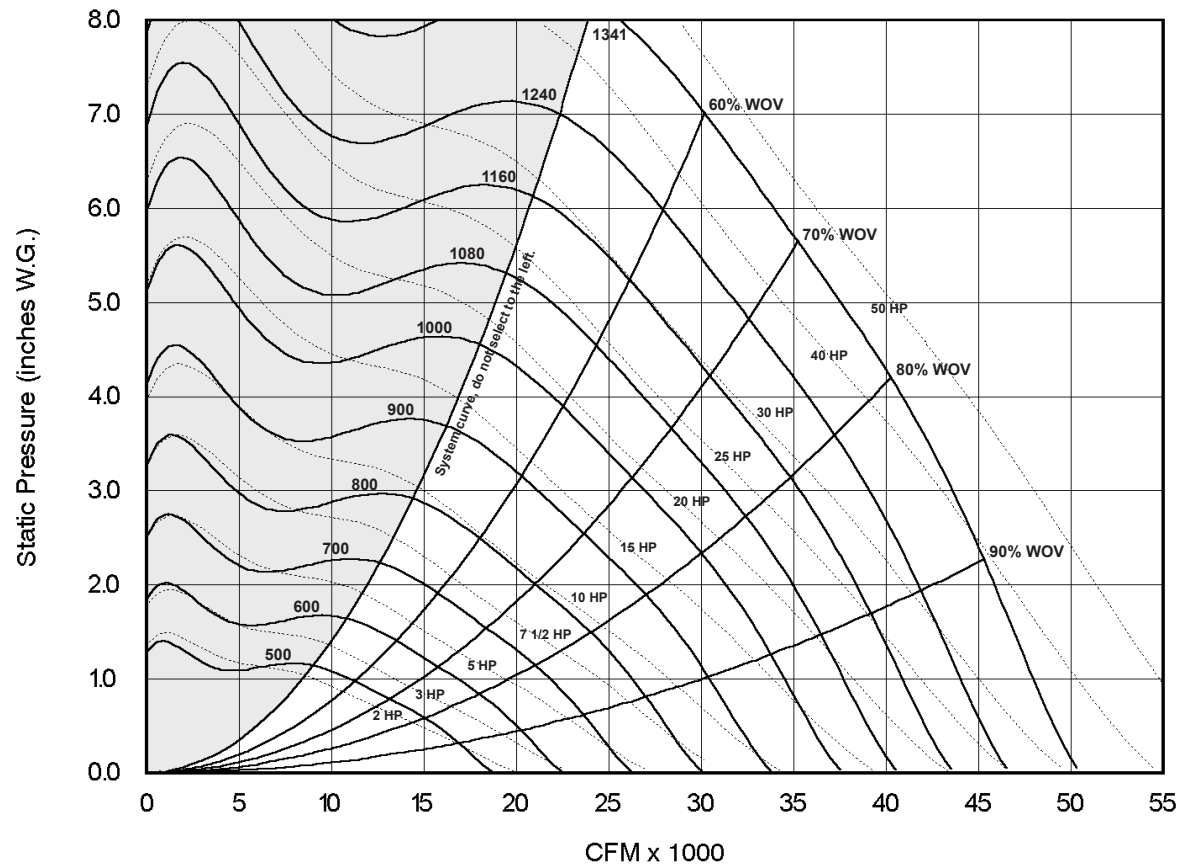
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	602	292	0.46	<b>356</b>	<b>0.86</b>	<b>412</b>	<b>1.31</b>														
9000	677	310	0.55	<b>372</b>	<b>0.98</b>	<b>424</b>	<b>1.45</b>														
10000	752	329	0.64	<b>389</b>	<b>1.12</b>	<b>439</b>	<b>1.62</b>	<b>485</b>	<b>2.15</b>												
11000	827	350	0.75	407	1.26	<b>455</b>	<b>1.80</b>	<b>499</b>	<b>2.36</b>	<b>539</b>	<b>2.96</b>										
12000	902	372	0.88	425	1.42	<b>472</b>	<b>2.00</b>	<b>514</b>	<b>2.60</b>	<b>553</b>	<b>3.22</b>	<b>590</b>	<b>3.88</b>								
13000	977	394	1.03	444	1.60	490	2.22	<b>531</b>	<b>2.85</b>	<b>568</b>	<b>3.50</b>	<b>604</b>	<b>4.19</b>	<b>638</b>	<b>4.91</b>	<b>672</b>	<b>5.66</b>				
14000	1053	418	1.20	463	1.79	508	2.45	<b>548</b>	<b>3.12</b>	<b>584</b>	<b>3.81</b>	<b>619</b>	<b>4.52</b>	<b>652</b>	<b>5.26</b>	<b>683</b>	<b>6.03</b>	<b>715</b>	<b>6.84</b>		
15000	1128	442	1.39	483	2.00	526	2.69	565	3.41	<b>601</b>	<b>4.14</b>	<b>635</b>	<b>4.88</b>	<b>666</b>	<b>5.65</b>	<b>697</b>	<b>6.44</b>	<b>727</b>	<b>7.27</b>	<b>756</b>	<b>8.12</b>
16500	1241	479	1.72	515	2.37	554	3.10	592	3.87	627	4.66	<b>660</b>	<b>5.47</b>	<b>690</b>	<b>6.28</b>	<b>720</b>	<b>7.12</b>	<b>748</b>	<b>7.97</b>	<b>775</b>	<b>8.86</b>
18000	1353	516	2.11	549	2.79	584	3.56	620	4.38	654	5.24	686	6.10	<b>716</b>	<b>6.97</b>	<b>744</b>	<b>7.86</b>	<b>771</b>	<b>8.76</b>	<b>798</b>	<b>9.68</b>
19500	1466	555	2.57	584	3.28	616	4.08	649	4.95	681	5.85	712	6.78	742	7.71	<b>770</b>	<b>8.66</b>	<b>796</b>	<b>9.62</b>	<b>822</b>	<b>10.59</b>
21000	1579	593	3.10	620	3.84	649	4.67	679	5.57	710	6.53	740	7.51	768	8.51	796	9.52	<b>822</b>	<b>10.53</b>	<b>847</b>	<b>11.56</b>
22500	1692	632	3.71	656	4.48	683	5.33	711	6.27	739	7.27	768	8.30	796	9.36	822	10.43	848	11.50	<b>872</b>	<b>12.59</b>
24000	1805	671	4.39	694	5.20	718	6.08	743	7.05	770	8.08	797	9.16	824	10.27	850	11.40	875	12.54	899	13.69
25500	1917	711	5.16	731	6.00	754	6.92	777	7.91	802	8.98	827	10.09	853	11.25	878	12.43	902	13.63	926	14.84
27000	2030	750	6.02	770	6.90	790	7.85	812	8.88	835	9.96	858	11.11	882	12.31	906	13.54	930	14.80	953	16.07
28500	2143	790	6.98	808	7.90	827	8.88	848	9.94	869	11.05	891	12.23	913	13.46	936	14.74	959	16.04	981	17.36
30000	2256	830	8.04	847	9.00	865	10.02	884	11.10	903	12.25	924	13.45	945	14.72	967	16.03	988	17.37	1010	18.75
31500	2368	870	9.21	886	10.21	903	11.26	920	12.38	939	13.55	958	14.79	978	16.08	998	17.42	1019	18.80	1039	20.22
33000	2481	909	10.49	925	11.53	941	12.62	958	13.77	975	14.97	993	16.24	1011	17.56	1031	18.93	1050	20.34	1070	21.80

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
18000	1353	823	<b>10.63</b>	<b>848</b>	<b>11.60</b>	<b>898</b>	<b>13.62</b>														
19000	1429	838	<b>11.25</b>	<b>863</b>	<b>12.24</b>	<b>910</b>	<b>14.30</b>	<b>957</b>	<b>16.46</b>												
20000	1504	854	<b>11.91</b>	<b>878</b>	<b>12.93</b>	<b>924</b>	<b>15.03</b>	<b>969</b>	<b>17.22</b>	<b>1013</b>	<b>19.52</b>										
21000	1579	871	<b>12.59</b>	<b>894</b>	<b>13.65</b>	<b>939</b>	<b>15.80</b>	<b>983</b>	<b>18.04</b>	<b>1025</b>	<b>20.36</b>	<b>1067</b>	<b>22.78</b>								
22000	1654	888	<b>13.31</b>	<b>911</b>	<b>14.40</b>	<b>955</b>	<b>16.62</b>	<b>997</b>	<b>18.90</b>	<b>1038</b>	<b>21.27</b>	<b>1079</b>	<b>23.72</b>	<b>1119</b>	<b>26.26</b>						
23000	1729	905	<b>14.06</b>	<b>927</b>	<b>15.19</b>	<b>971</b>	<b>17.47</b>	<b>1013</b>	<b>19.81</b>	<b>1053</b>	<b>22.22</b>	<b>1092</b>	<b>24.71</b>	<b>1131</b>	<b>27.28</b>	<b>1169</b>	<b>29.95</b>				
24000	1805	922	<b>14.84</b>	<b>944</b>	<b>16.01</b>	<b>987</b>	<b>18.36</b>	<b>1028</b>	<b>20.77</b>	<b>1068</b>	<b>23.23</b>	<b>1106</b>	<b>25.76</b>	<b>1144</b>	<b>28.37</b>	<b>1181</b>	<b>31.06</b>	<b>1217</b>	<b>33.84</b>		
25000	1880	940	<b>15.65</b>	<b>962</b>	<b>16.85</b>	<b>1004</b>	<b>19.29</b>	<b>1045</b>	<b>21.76</b>	<b>1083</b>	<b>24.29</b>	<b>1121</b>	<b>26.87</b>	<b>1158</b>	<b>29.52</b>	<b>1194</b>	<b>32.25</b>	<b>1229</b>	<b>35.05</b>	<b>1264</b>	<b>37.93</b>
26000	1955	957	<b>16.48</b>	979	17.73	<b>1021</b>	<b>20.24</b>	<b>1061</b>	<b>22.79</b>	<b>1100</b>	<b>25.38</b>	<b>1137</b>	<b>28.03</b>	<b>1172</b>	<b>30.73</b>	<b>1208</b>	<b>33.49</b>	<b>1242</b>	<b>36.33</b>	<b>1276</b>	<b>39.24</b>
27000	2030	975	<b>17.35</b>	997	18.64	<b>1039</b>	<b>21.23</b>	<b>1078</b>	<b>23.86</b>	<b>1116</b>	<b>26.52</b>	<b>1152</b>	<b>29.23</b>	<b>1188</b>	<b>31.99</b>	<b>1222</b>	<b>34.80</b>	<b>1256</b>	<b>37.68</b>	<b>1289</b>	<b>40.63</b>
28000	2105	994	<b>18.24</b>	1015	19.57	1056	22.26	<b>1096</b>	<b>24.96</b>	<b>1133</b>	<b>27.70</b>	<b>1169</b>	<b>30.47</b>	<b>1204</b>	<b>33.29</b>	<b>1237</b>	<b>36.17</b>	<b>1271</b>	<b>39.09</b>	<b>1303</b>	<b>42.08</b>
29000	2180	1012	<b>19.17</b>	1033	20.54	<b>1074</b>	<b>23.31</b>	1113	26.10	<b>1150</b>	<b>28.91</b>	<b>1186</b>	<b>31.76</b>	<b>1220</b>	<b>34.65</b>	<b>1253</b>	<b>37.58</b>	<b>1286</b>	<b>40.56</b>	<b>1318</b>	<b>43.60</b>
30000	2256	1031	<b>20.14</b>	1052	21.55	1092	24.40	1130	27.27	<b>1167</b>	<b>30.17</b>	<b>1202</b>	<b>33.09</b>	<b>1236</b>	<b>36.05</b>	<b>1269</b>	<b>39.05</b>	<b>1301</b>	<b>42.09</b>	<b>1333</b>	<b>45.18</b>
31000	2331	1050	<b>21.15</b>	1070	22.59	1110	25.52	1148	28.48	1185	31.46	<b>1220</b>	<b>34.46</b>	<b>1253</b>	<b>37.49</b>	<b>1286</b>	<b>40.56</b>	<b>1318</b>	<b>43.67</b>		
32000	2406	1069	<b>22.19</b>	<b>1089</b>	<b>23.67</b>	1128	26.68	1166	29.72	1202	32.78	<b>1237</b>	<b>35.87</b>	<b>1270</b>	<b>38.98</b>	<b>1303</b>	<b>42.12</b>	<b>1334</b>	<b>45.29</b>		
33000	2481	1089	<b>23.29</b>	1109	24.80	1147	27.87	1184	30.99	1220	34.14	1254	37.31	<b>1288</b>	<b>40.50</b>	<b>1320</b>	<b>43.72</b>				
34000	2556	1109	<b>24.43</b>	1128	25.97	1166	29.11	1203	32.31	1238	35.54	1272	38.80	1305	42.07	<b>1337</b>	<b>45.37</b>				
35000	2632	1130	<b>25.62</b>	1148	27.19	1185	30.40	1221	33.67	1256	36.98	1290	40.32	1322	43.68						
36000	2707	1151	<b>26.87</b>	1169	28.46	1204	31.73	1240	35.07	1274	38.46	1308	41.88	1340	45.32						
37000	2782	1172	<b>28.17</b>	1189	29.79	1224	33.11	1259	36.52	1293	39.99	1326	43.49								

- Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.
- 2) Power rating (BHP) does not include belt drive losses.
- 3) Performance ratings do not include the effects of appurtenances in the airstream.
- 4) Bold figures indicate range of highest static efficiency.
- 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

**% WOV = 2.72 (CFM/RPM)**

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
292	100	69	68	70	67	59	54	46	38	67
	80	64	63	63	61	56	49	41	34	62
	70	63	63	62	60	56	49	42	34	61
	60	63	63	61	59	56	49	42	36	61
	50	63	64	60	59	56	50	44	38	61
395	100	76	76	76	75	69	63	56	48	75
	80	71	71	70	69	65	59	51	43	70
	70	70	71	69	68	64	59	51	44	69
	60	70	70	69	67	64	59	52	45	69
	50	70	71	69	66	64	59	53	47	69
500	100	81	82	80	81	77	70	64	56	82
	80	77	77	76	75	71	66	59	51	76
	70	76	77	75	73	71	66	59	52	75
	60	76	76	75	72	70	66	59	53	75
	50	76	77	76	72	70	66	60	54	75
600	100	85	87	84	86	83	75	70	62	87
	80	81	82	80	79	77	72	65	57	81
	70	80	81	79	78	76	72	65	58	81
	60	80	81	79	77	75	72	65	58	80
	50	80	81	81	76	75	72	66	60	80
700	100	87	90	88	88	86	79	73	66	90
	80	82	85	83	82	80	75	69	62	84
	70	82	84	83	81	79	74	69	62	84
	60	82	84	82	80	78	74	69	62	83
	50	82	84	83	80	78	75	70	64	83
800	100	87	93	92	90	89	82	75	69	93
	80	84	88	86	84	83	77	72	65	87
	70	84	87	85	83	81	76	72	65	86
	60	83	86	85	82	80	76	72	66	85
	50	84	87	86	83	80	76	73	68	86

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
900	100	87	96	95	91	93	84	77	71	96
	80	85	90	89	86	86	79	74	68	90
	70	85	89	88	84	84	78	74	68	88
	60	85	88	87	83	83	77	74	68	87
	50	87	89	88	85	83	78	75	71	88
1000	100	89	100	97	94	94	87	80	74	98
	80	88	94	91	89	88	81	77	71	92
	70	87	93	89	87	87	81	76	71	91
	60	87	92	89	86	85	80	76	72	89
	50	88	92	90	87	85	81	77	73	90
1080	100	89	103	99	96	96	89	82	76	100
	80	89	97	92	91	90	83	78	73	94
	70	89	96	91	89	89	83	78	73	93
	60	89	95	90	88	87	82	78	74	91
	50	90	95	91	89	87	83	79	75	92
1160	100	90	104	101	97	98	92	84	79	101
	80	91	99	94	92	92	85	80	76	96
	70	90	98	93	91	90	85	80	75	94
	60	90	97	92	90	89	85	80	76	94
	50	91	97	93	90	89	85	80	77	94
1240	100	91	104	103	99	99	94	86	80	103
	80	92	100	96	94	94	88	82	77	98
	70	91	99	95	92	92	87	82	77	96
	60	91	98	94	91	91	86	82	78	95
	50	92	98	95	92	91	86	82	79	95
1341	100	92	105	105	101	101	96	89	83	105
	80	93	101	99	96	95	90	84	80	99
	70	93	100	97	94	94	89	84	80	98
	60	93	99	97	93	92	89	84	80	97
	50	93	99	98	94	93	89	84	81	98

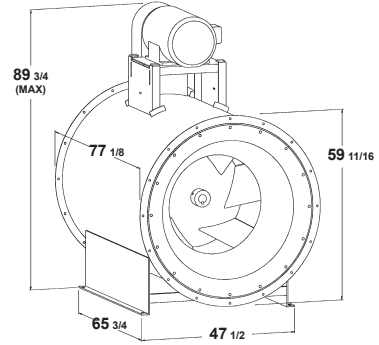
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

## 402

Wheel Diameter = 49.00 in.	Maximum BHP = 31.26 (RPM/1000) <sup>3</sup>
Outlet Area = 16.10 ft. <sup>2</sup>	Max. Motor Frame Size = 365T
Tip Speed, FPM = 12.83 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	1583	286	491	973
II	1666	324	506	1216

- ① WR<sup>2</sup> = Inertial Starting Force
- ② Maximum RPM is based on operating temperature of 100°F. From 101°F through 200°F multiply RPM by 0.93.

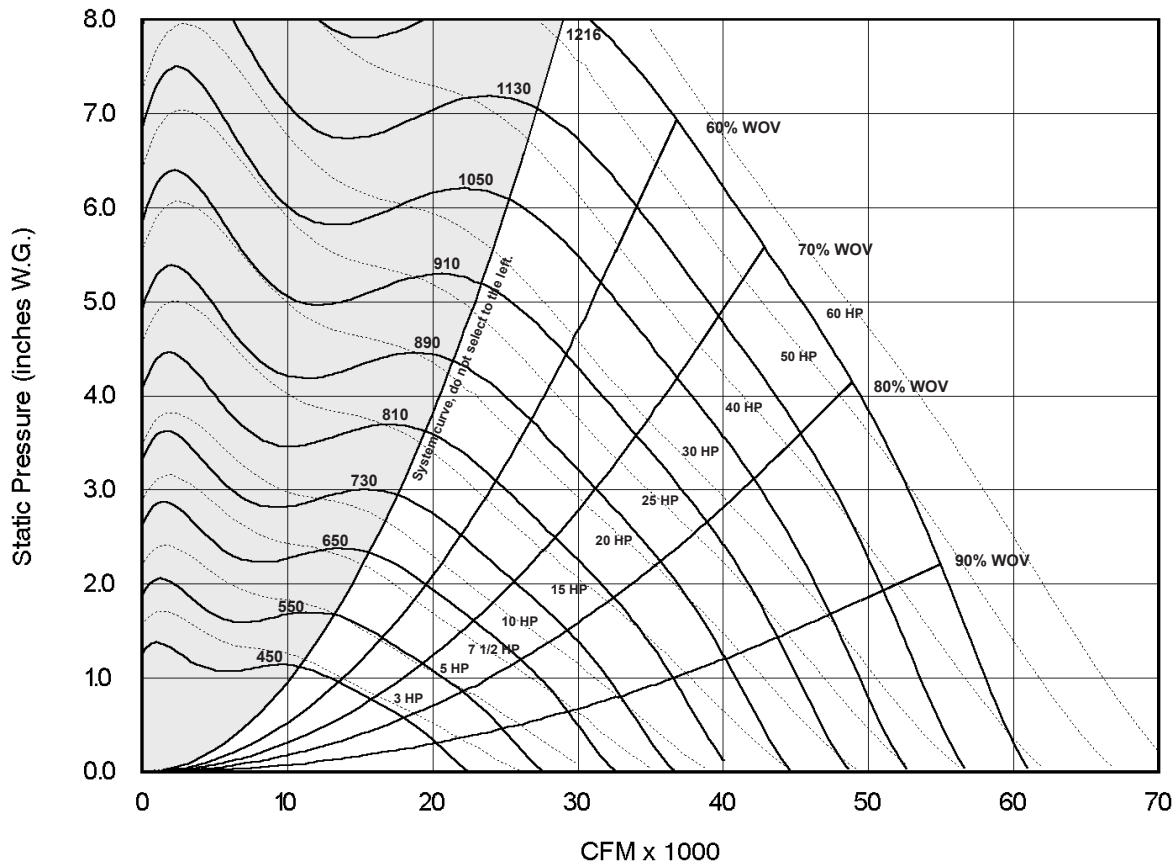
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	621	269	0.59	327	1.08	376	1.62														
11200	696	286	0.69	341	1.23	388	1.80	432	2.44												
12400	770	303	0.81	357	1.39	402	2.01	443	2.67	482	3.38										
13600	845	322	0.95	373	1.57	417	2.23	456	2.92	492	3.66	528	4.45								
14800	919	342	1.10	389	1.77	432	2.48	470	3.21	505	3.97	538	4.78	571	5.64						
16000	994	362	1.28	406	1.98	448	2.74	485	3.52	519	4.32	551	5.15	582	6.03	612	6.95				
18000	1118	398	1.64	436	2.39	475	3.22	511	4.08	544	4.95	574	5.85	603	6.77	631	7.73	658	8.73	685	9.76
20000	1242	435	2.09	468	2.87	503	3.76	538	4.70	570	5.65	599	6.62	627	7.61	654	8.63	679	9.67	704	10.74
22000	1366	472	2.61	501	3.43	533	4.37	565	5.38	596	6.42	625	7.47	652	8.54	678	9.62	703	10.72	726	11.84
24000	1491	511	3.24	537	4.10	565	5.08	595	6.14	624	7.25	652	8.39	678	9.54	703	10.70	727	11.87	751	13.06
26000	1615	549	3.97	573	4.87	598	5.89	625	7.00	652	8.17	679	9.38	705	10.61	730	11.86	753	13.11	776	14.38
28000	1739	588	4.81	609	5.76	632	6.81	657	7.96	682	9.19	708	10.46	733	11.77	757	13.10	780	14.44	802	15.78
30000	1863	627	5.77	647	6.77	668	7.87	690	9.05	714	10.32	737	11.65	761	13.03	784	14.43	807	15.85	828	17.28
32000	1988	667	6.87	685	7.92	704	9.05	725	10.27	746	11.58	768	12.96	790	14.39	812	15.86	834	17.36	855	18.87
34000	2112	706	8.10	723	9.20	741	10.38	760	11.64	779	12.99	800	14.40	821	15.88	842	17.41	863	18.98	883	20.56
36000	2236	746	9.48	762	10.63	778	11.85	796	13.16	814	14.54	833	16.00	852	17.52	872	19.10	892	20.72	911	22.38
38000	2360	786	11.01	801	12.22	816	13.49	832	14.84	849	16.26	867	17.75	885	19.31	903	20.94	922	22.61	941	24.32
40000	2484	826	12.71	840	13.97	854	15.29	869	16.68	885	18.14	902	19.67	918	21.27	936	22.94	953	24.65	971	26.42
42000	2609	866	14.59	879	15.89	893	17.27	907	18.70	922	20.21	937	21.78	953	23.41	969	25.11	986	26.87	1002	28.68
44000	2733	906	16.64	918	18.00	931	19.42	945	20.91	959	22.45	973	24.06	988	25.74	1003	27.48	1019	29.28	1034	31.13

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
21000	1304	739	12.40	762	13.56	808	15.99														
22200	1379	752	13.12	774	14.30	819	16.76	862	19.36												
23400	1453	766	13.87	788	15.09	830	17.60	872	20.23	913	22.99										
24600	1528	780	14.67	802	15.92	843	18.49	884	21.16	923	23.95										
25800	1602	795	15.51	816	16.80	857	19.43	896	22.16	934	24.99	972	27.93								
27000	1677	810	16.38	831	17.71	871	20.42	909	23.21	947	26.09	983	29.07	1019	32.17						
28200	1752	826	17.29	846	18.67	886	21.46	923	24.32	960	27.26	995	30.29	1030	33.41	1064	36.65	1098	40.00		
29400	1826	841	18.23	862	19.66	901	22.54	938	25.47	973	28.48	1008	31.57	1042	34.74	1075	38.01	1108	41.38	1140	44.86
30600	1901	857	19.21	877	20.68	916	23.66	952	26.68	987	29.76	1021	32.91	1054	36.14	1087	39.45	1119	42.86	1151	46.36
31800	1975	873	20.22	893	21.74	931	24.81	967	27.93	1002	31.09	1035	34.31	1068	37.60	1100	40.97	1131	44.42	1162	47.96
33000	2050	889	21.27	909	22.84	947	26.01	983	29.22	1017	32.46	1050	35.76	1082	39.12	1113	42.55	1143	46.05	1173	49.64
34200	2124	906	22.35	925	23.97	963	27.24	998	30.55	1032	33.89	1065	37.27	1096	40.70	1127	44.20	1157	47.76	1186	51.40
35400	2199	922	23.48	942	25.15	979	28.52	1014	31.92	1047	35.35	1080	38.82	1111	42.34	1141	45.91	1170	49.54	1199	53.24
36600	2273	939	24.64	958	26.36	995	29.83	1030	33.33	1063	36.86	1095	40.43	1126	44.03	1156	47.68	1185	51.38	1213	55.14
37800	2348	957	25.86	975	27.62	1011	31.18	1046	34.79	1079	38.42	1110	42.08	1141	45.77	1170	49.51	1199	53.29		
39000	2422	974	27.13	992	28.93	1028	32.58	1062	36.28	1094	40.02	1126	43.78	1156	47.56	1185	51.39	1214	55.25		
40200	2497	992	28.45	1010	30.28	1044	34.03	1078	37.83	1110	41.66	1142	45.52	1172	49.40	1201	53.32				
41400	2571	1010	29.82	1027	31.70	1061	35.52	1095	39.41	1127	43.34	1158	47.30	1187	51.29						
42600	2646	1029	31.26	1045	33.17	1079	37.07	1111	41.05	1143	45.08	1174	49.14	1203	53.22						
43800	2720	1047	32.77	1064	34.71	1096	38.68	1128	42.74	1159	46.86	1190	51.02								

- Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.
- 2) Power rating (BHP) does not include belt drive losses.
- 3) Performance ratings do not include the effects of appurtenances in the airstream.
- 4) Bold figures indicate range of highest static efficiency.
- 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 2.03 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
269	100	70	69	71	67	60	54	46	38	68
	80	65	64	64	61	56	49	42	34	62
	70	64	64	63	61	56	49	42	35	62
	60	64	64	62	60	56	50	43	36	61
	50	64	65	61	60	56	51	45	39	61
360	100	77	76	77	76	69	63	56	48	76
	80	72	72	71	69	65	59	51	43	70
	70	72	71	70	68	65	59	51	44	70
	60	71	71	69	67	65	59	52	45	69
	50	71	72	69	67	65	59	53	47	69
450	100	82	82	81	81	76	70	63	55	82
	80	78	77	76	75	71	66	58	51	76
	70	77	77	75	74	71	66	59	51	76
	60	77	77	75	73	70	66	59	52	75
	50	77	78	76	72	70	66	60	54	75
550	100	86	88	85	87	83	75	70	62	88
	80	82	83	81	80	77	72	65	57	82
	70	82	82	80	79	76	72	65	58	81
	60	82	82	80	78	76	72	65	59	81
	50	81	82	81	77	76	72	66	60	81
650	100	89	92	89	90	87	80	74	67	91
	80	85	87	85	84	81	76	70	63	86
	70	85	86	84	82	80	76	70	63	85
	60	84	86	84	81	79	76	70	63	84
	50	84	86	85	81	79	76	71	65	84
730	100	90	94	92	92	90	83	76	70	94
	80	86	89	87	86	83	78	73	66	88
	70	86	88	86	84	82	78	73	66	87
	60	86	88	86	83	81	78	73	66	86
	50	86	88	87	84	81	78	74	69	87

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
810	100	91	97	95	93	93	85	78	72	96
	80	87	91	89	87	86	80	75	68	90
	70	87	90	89	86	85	79	75	68	89
	60	87	90	88	85	83	79	75	69	88
	50	88	90	89	86	83	80	76	71	89
890	100	90	99	98	94	96	87	80	74	99
	80	88	93	91	89	89	81	77	71	92
	70	88	92	90	87	87	80	77	71	91
	60	88	91	90	86	86	80	77	71	90
	50	90	92	91	88	86	81	78	74	91
910	100	91	99	98	94	96	87	80	74	99
	80	89	94	92	89	89	82	77	71	93
	70	89	92	91	88	87	81	77	71	91
	60	89	92	90	87	86	80	77	72	90
	50	90	92	91	88	86	81	78	74	91
1050	100	92	105	101	98	99	92	84	79	102
	80	92	99	94	93	92	86	81	76	96
	70	92	98	93	91	91	85	80	76	95
	60	92	97	93	90	90	85	80	76	94
	50	93	97	94	91	90	85	81	78	94
1130	100	93	107	103	100	100	94	86	81	104
	80	94	102	96	95	95	88	82	78	98
	70	93	100	95	93	93	87	82	78	97
	60	93	100	94	92	92	87	82	78	96
	50	94	100	96	93	92	87	83	79	97
1216	100	94	107	105	102	102	96	88	83	106
	80	95	103	98	96	96	90	85	80	100
	70	94	102	97	95	94	89	84	80	98
	60	94	101	97	94	93	89	84	80	98
	50	95	101	98	94	93	89	85	81	98

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

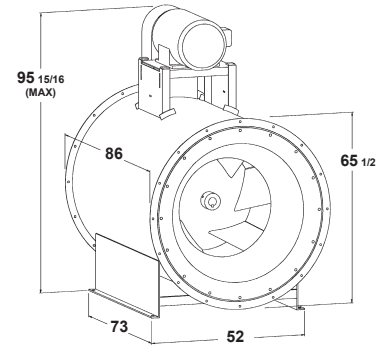


# ESI - Performance Data

Efficient Silent Inline Fan

# 445

Wheel Diameter = 54.25 in.	Maximum BHP = 52.33 (RPM/1000) <sup>3</sup>
Outlet Area = 19.70 ft. <sup>2</sup>	Max. Motor Frame Size = 365T
Tip Speed, FPM = 14.20 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	1923	371	766	880
II	2024	394	770	1100

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

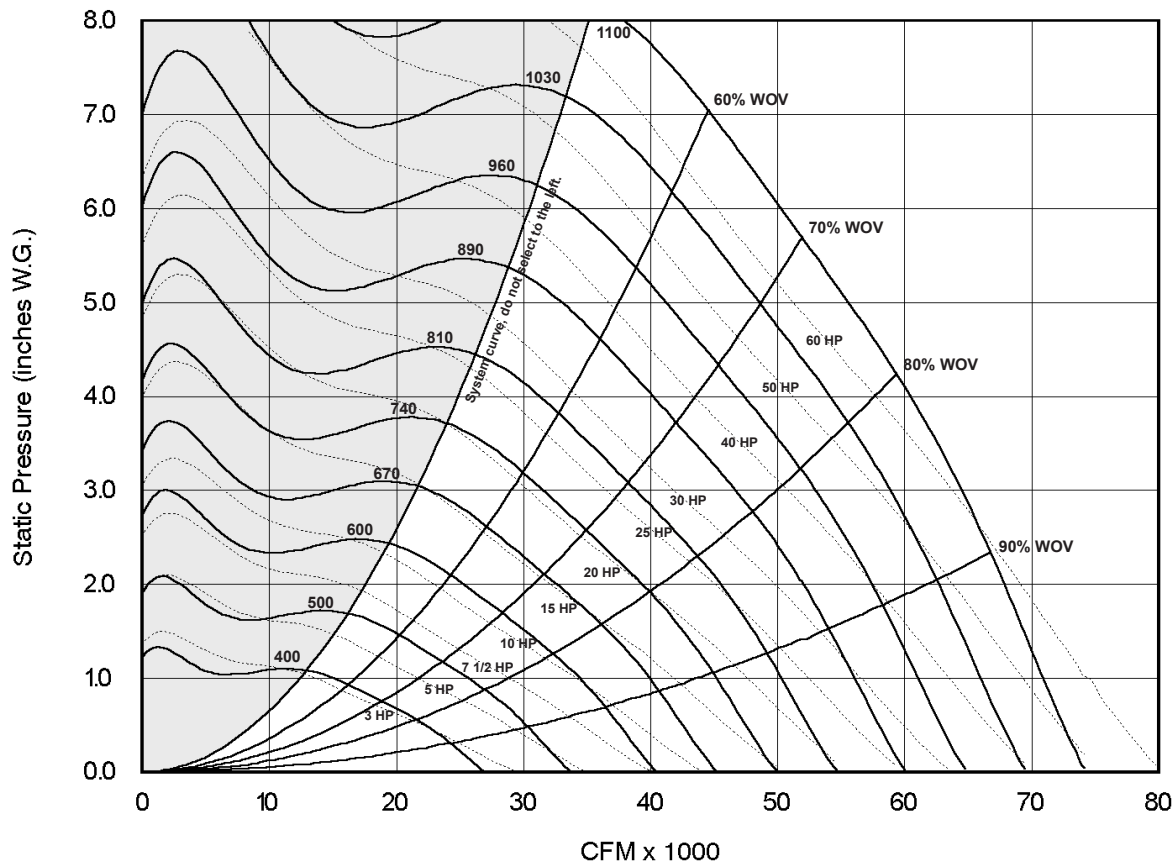
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
13000	660	250	0.78	302	1.41	345	2.10														
14500	736	266	0.92	316	1.61	357	2.34	395	3.13												
16000	812	283	1.08	330	1.83	370	2.61	406	3.44	440	4.32										
17500	888	301	1.26	345	2.06	384	2.90	419	3.78	451	4.70	482	5.68								
19000	964	319	1.48	360	2.32	399	3.22	432	4.15	463	5.11	493	6.12	521	7.18						
22400	1137	364	2.08	398	3.00	432	4.03	465	5.10	494	6.18	522	7.29	548	8.44	573	9.62	597	10.85	621	12.12
24800	1259	397	2.63	426	3.59	458	4.69	489	5.85	517	7.03	544	8.24	569	9.46	593	10.71	616	11.99	638	13.31
27200	1381	430	3.27	456	4.28	484	5.43	513	6.68	541	7.96	567	9.26	591	10.58	614	11.91	637	13.27	658	14.65
29600	1503	464	4.03	487	5.09	512	6.29	539	7.60	565	8.97	591	10.37	614	11.78	637	13.21	659	14.66	680	16.12
32000	1624	498	4.91	519	6.03	542	7.27	566	8.63	591	10.08	615	11.57	638	13.08	660	14.61	682	16.15	702	17.71
34400	1746	532	5.93	552	7.10	572	8.39	594	9.80	617	11.30	640	12.87	662	14.48	684	16.11	705	17.75	725	19.40
36800	1868	567	7.09	585	8.32	604	9.66	624	11.11	645	12.67	666	14.30	688	15.98	708	17.70	729	19.45	748	21.20
39200	1990	602	8.40	618	9.69	636	11.08	654	12.58	673	14.18	693	15.87	714	17.62	734	19.42	753	21.26	772	23.11
41600	2112	637	9.88	652	11.22	668	12.67	685	14.21	703	15.86	722	17.60	740	19.41	759	21.28	778	23.20	797	25.14
44000	2234	672	11.53	686	12.93	701	14.43	717	16.03	734	17.72	751	19.50	768	21.37	786	23.30	804	25.28	822	27.31
46400	2355	707	13.36	721	14.83	735	16.38	749	18.03	765	19.77	781	21.59	797	23.51	814	25.49	831	27.54	848	29.63
48800	2477	742	15.38	755	16.91	768	18.53	782	20.22	796	22.01	811	23.89	827	25.84	842	27.88	858	29.98	875	32.13
51200	2599	778	17.60	790	19.20	802	20.87	815	22.63	829	24.46	843	26.38	857	28.39	872	30.47	887	32.62	902	34.83
53600	2721	813	20.04	825	21.70	836	23.44	849	25.25	861	27.13	874	29.10	888	31.15	902	33.27	916	35.47	930	37.73
55000	2792	834	21.57	845	23.26	856	25.03	868	26.88	880	28.80	893	30.79	906	32.87	919	35.02	933	37.24	947	39.53

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
26500	1345	673	15.65	694	17.08	735	20.08														
28000	1421	686	16.57	706	18.04	745	21.09	783	24.29												
29500	1497	699	17.54	718	19.06	756	22.17	793	25.42	830	28.82										
31000	1574	712	18.57	732	20.13	769	23.32	804	26.63	839	30.08	874	33.67								
32500	1650	726	19.64	745	21.25	781	24.54	816	27.92	850	31.42	884	35.06	916	38.84						
34000	1726	740	20.76	759	22.43	795	25.81	829	29.28	862	32.85	894	36.54	926	40.36	957	44.31				
35500	1802	755	21.92	773	23.65	808	27.14	842	30.70	874	34.35	906	38.11	937	41.98	967	45.97	997	50.09		
37000	1878	769	23.13	787	24.91	822	28.52	856	32.19	887	35.93	918	39.76	948	43.69	978	47.74	1007	51.90	1036	56.18
38500	1954	784	24.38	802	26.22	837	29.95	869	33.73	901	37.57	931	41.49	961	45.49	989	49.60	1018	53.81	1046	58.14
40000	2030	799	25.67	817	27.58	851	31.43	883	35.32	914	39.27	944	43.28	973	47.37	1001	51.55	1029	55.83	1057	60.20
41500	2107	814	27.01	832	28.98	865	32.96	898	36.97	928	41.03	958	45.15	986	49.33	1014	53.59	1041	57.94	1068	62.38
43000	2183	829	28.40	847	30.43	880	34.54	912	38.67	942	42.85	972	47.08	1000	51.36	1027	55.71	1054	60.14	1080	64.65
44500	2259	845	29.85	862	31.94	895	36.16	926	40.43	957	44.73	986	49.07	1013	53.46	1040	57.90	1067	62.42	1093	67.01
46000	2335	860	31.35	877	33.50	910	37.84	941	42.23	971	46.66	1000	51.12	1027	55.62	1054	60.17	1080	64.78		
47500	2411	877	32.92	893	35.12	925	39.58	956	44.09	986	48.64	1014	53.22	1041	57.84	1068	62.51	1094	67.22		
49000	2487	893	34.56	909	36.80	940	41.37	971	46.01	1000	50.68	1029	55.39	1056	60.13	1082	64.91				
50500	2563	910	36.27	925	38.56	956	43.23	986	47.98	1015	52.78	1043	57.61	1070	62.48	1096	67.37				
52000	2640	926	38.06	942	40.39	972	45.16	1001	50.02	1030	54.94	1058	59.90	1085	64.89						
53500	2716	944	39.93	958	42.30	988	47.15	1017	52.12	1045	57.16	1073	62.24	1099	67.36						
55000	2792	961	41.88	976	44.29	1004	49.23	1033	54.29	1061	59.44	1088	64.65								

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 1.49 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
251	100	72	71	72	68	61	55	47	39	69
	80	67	66	65	63	57	50	42	35	64
	70	66	66	64	62	57	50	43	36	63
	60	66	65	63	61	57	51	44	37	62
	50	66	66	63	61	57	52	46	40	63
325	100	78	77	78	76	69	63	56	48	76
	80	73	72	72	70	65	59	51	43	71
	70	73	72	71	69	65	59	51	44	70
	60	72	72	70	68	65	59	52	45	70
	50	72	73	69	68	65	59	53	47	70
400	100	83	82	82	82	75	69	63	55	82
	80	78	78	77	75	71	65	58	50	76
	70	78	77	76	74	71	65	58	51	76
	60	78	77	75	73	70	65	58	52	75
	50	77	78	75	73	70	66	60	54	75
500	100	88	88	87	87	83	76	70	62	88
	80	84	83	82	81	77	72	65	57	82
	70	83	83	81	80	77	72	65	58	82
	60	83	83	81	78	76	72	65	59	81
	50	83	83	82	78	76	72	66	60	81
600	100	92	93	90	92	89	81	76	68	93
	80	88	88	86	85	83	78	71	63	87
	70	87	88	85	84	82	78	71	64	87
	60	87	87	85	83	81	78	71	64	86
	50	87	87	87	82	81	78	72	66	86
670	100	93	96	93	94	91	84	78	71	95
	80	89	91	88	87	85	80	74	66	89
	70	88	90	88	86	84	80	74	67	89
	60	88	89	88	85	83	80	74	67	88
	50	88	90	89	85	83	80	75	69	88

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
740	100	94	98	96	95	93	86	80	73	97
	80	90	93	91	89	87	82	76	69	92
	70	90	92	90	88	86	81	76	69	91
	60	89	91	89	87	85	81	76	70	90
	50	90	92	91	87	85	81	77	72	90
810	100	94	100	98	96	96	88	81	75	99
	80	91	94	92	91	89	83	78	72	93
	70	91	93	92	89	88	82	78	72	92
	60	91	93	91	88	87	82	78	72	91
	50	92	93	92	89	87	83	79	74	92
890	100	94	102	101	97	99	90	83	77	102
	80	92	96	94	92	92	84	80	74	95
	70	92	95	94	90	90	84	80	74	94
	60	92	94	93	89	89	83	80	74	93
	50	94	95	94	91	89	84	81	77	94
960	100	95	104	102	99	100	92	85	79	103
	80	94	99	96	94	93	86	82	76	97
	70	93	97	95	92	92	86	81	76	96
	60	93	97	94	91	90	85	81	76	94
	50	95	97	95	92	90	86	82	78	95
1030	100	96	107	104	101	101	94	87	81	105
	80	95	102	97	96	95	88	83	78	99
	70	95	100	96	94	93	88	83	78	97
	60	95	99	95	93	92	87	83	79	96
	50	96	100	97	94	92	87	84	80	97
1100	100	96	110	105	102	103	96	88	83	106
	80	97	105	98	97	97	90	85	80	101
	70	96	103	97	95	95	89	84	80	99
	60	96	102	97	94	94	89	84	80	98
	50	97	102	98	95	94	89	85	82	99

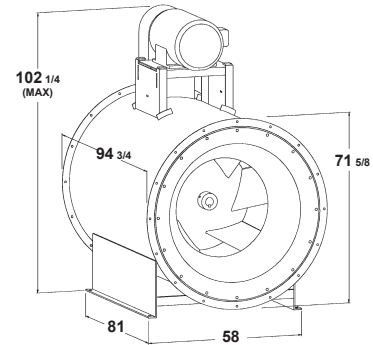
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

# 490

Wheel Diameter = 60.00 in.	Maximum BHP = 86.59 (RPM/1000) <sup>3</sup>
Outlet Area = 23.90 ft. <sup>2</sup>	Max. Motor Frame Size = 365T
Tip Speed, FPM = 15.71 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	2494	459	1165	800
II	2625	488	1217	1000

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

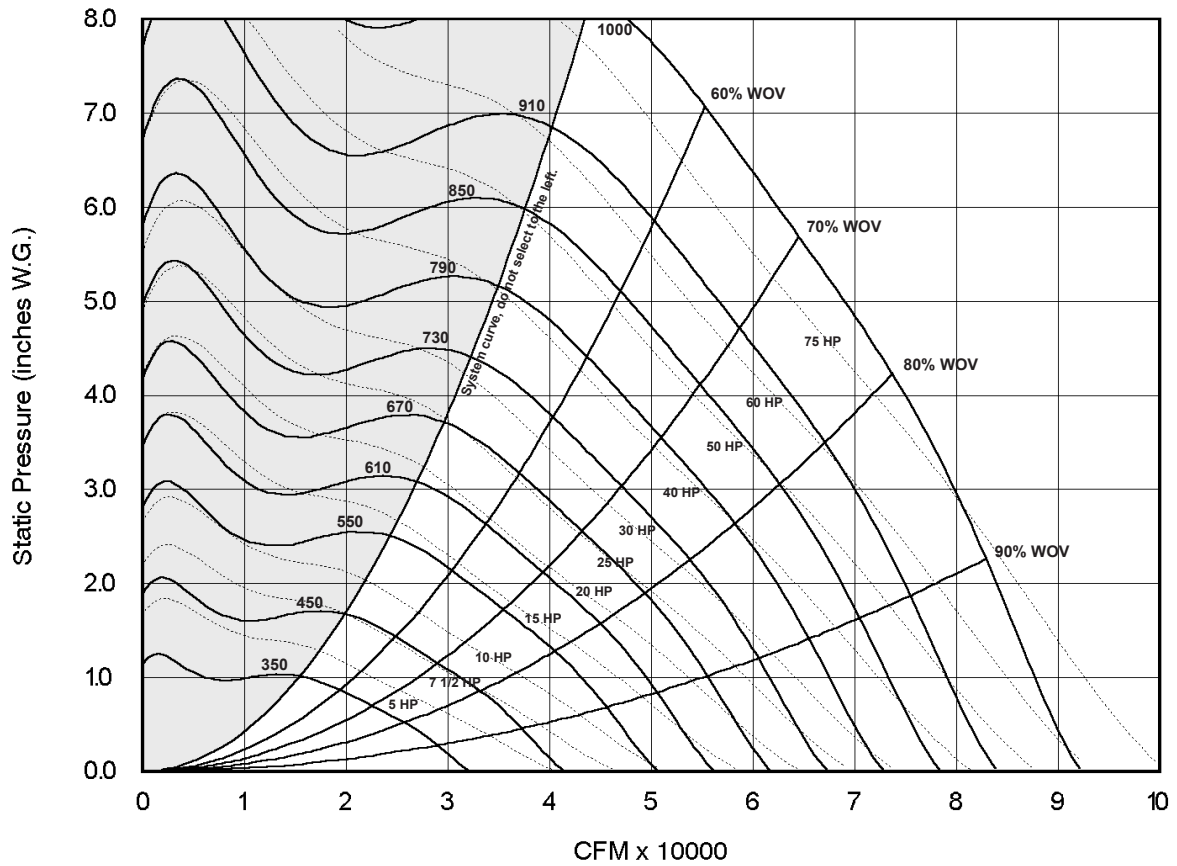
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
18000	753	243	1.15	287	2.01	325	2.91	358	3.88												
20000	837	260	1.37	302	2.30	338	3.27	370	4.30	400	5.39										
22000	921	277	1.63	316	2.62	352	3.68	383	4.76	411	5.90	439	7.11	466	8.40						
24000	1004	296	1.93	332	2.97	366	4.11	396	5.28	424	6.48	450	7.73	475	9.04	500	10.43				
26000	1088	315	2.28	348	3.37	380	4.58	410	5.83	437	7.10	462	8.41	486	9.77	510	11.18	533	12.66		
28500	1192	340	2.78	369	3.93	399	5.22	428	6.57	455	7.94	479	9.34	502	10.77	524	12.25	546	13.77	567	15.35
31000	1297	365	3.38	391	4.57	419	5.93	447	7.37	472	8.85	496	10.35	519	11.87	540	13.42	561	15.01	581	16.64
33500	1402	391	4.07	414	5.31	440	6.72	466	8.25	491	9.83	514	11.43	536	13.05	557	14.69	577	16.36	597	18.06
36000	1506	417	4.86	438	6.15	461	7.62	486	9.21	510	10.88	532	12.58	554	14.31	575	16.05	594	17.81	613	19.59
38500	1611	443	5.76	463	7.11	484	8.62	506	10.27	529	12.02	551	13.82	572	15.64	592	17.49	612	19.35	630	21.23
41000	1715	470	6.78	488	8.18	507	9.74	528	11.44	549	13.26	570	15.14	591	17.07	611	19.01	630	20.98	648	22.96
43500	1820	497	7.92	513	9.38	531	10.99	550	12.74	570	14.61	590	16.57	610	18.58	629	20.63	648	22.70	666	24.78
46000	1925	523	9.19	539	10.71	555	12.37	573	14.17	592	16.09	611	18.11	629	20.21	648	22.35	666	24.51	684	26.70
48500	2029	550	10.60	565	12.19	580	13.90	597	15.75	614	17.71	632	19.79	650	21.95	668	24.17	685	26.43	702	28.72
51000	2134	577	12.16	591	13.81	605	15.58	621	17.47	637	19.49	653	21.61	670	23.83	688	26.13	705	28.47	721	30.85
53500	2238	604	13.87	617	15.58	631	17.41	645	19.35	660	21.41	676	23.59	692	25.86	708	28.22	724	30.64	741	33.10
56000	2343	631	15.74	644	17.52	656	19.40	670	21.40	684	23.51	699	25.73	714	28.06	729	30.47	745	32.95	760	35.49
58500	2448	658	17.78	670	19.62	682	21.57	695	23.62	708	25.78	722	28.05	736	30.42	751	32.88	766	35.43	781	38.04
61000	2552	685	19.99	697	21.90	708	23.91	720	26.02	733	28.23	746	30.55	760	32.96	773	35.48	787	38.07	802	40.74
63500	2657	713	22.39	723	24.37	735	26.44	746	28.60	758	30.87	770	33.23	783	35.70	796	38.26	810	40.90	823	43.63

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
31000	1297	601	18.32	620	20.05	658	23.68														
33000	1381	612	19.49	631	21.26	667	24.94														
35000	1464	625	20.75	643	22.56	678	26.32	712	30.26												
37000	1548	638	22.08	655	23.96	689	27.81	722	31.82	754	36.01	786	40.39								
39000	1632	651	23.48	669	25.42	702	29.39	734	33.49	765	37.75	795	42.17	825	46.78						
41000	1715	665	24.95	682	26.97	715	31.06	746	35.27	776	39.61	805	44.10	834	48.75	863	53.58				
43000	1799	679	26.48	696	28.58	728	32.81	759	37.15	788	41.59	817	46.16	845	50.88	872	55.75	900	60.78		
45000	1883	694	28.08	710	30.25	742	34.64	772	39.11	801	43.67	829	48.34	856	53.14	883	58.08	909	63.16	935	68.40
47000	1967	708	29.74	724	31.99	756	36.54	785	41.16	814	45.85	841	50.64	868	55.53	894	60.55	920	65.70	945	70.99
49000	2050	723	31.46	739	33.80	770	38.52	799	43.28	827	48.12	854	53.03	880	58.04	906	63.16	931	68.39	956	73.74
51000	2134	738	33.26	754	35.68	784	40.56	813	45.49	841	50.47	868	55.53	893	60.66	918	65.88	943	71.21	967	76.65
53000	2218	753	35.12	768	37.63	799	42.67	827	47.77	855	52.91	881	58.11	907	63.38	931	68.73	955	74.16	979	79.70
55000	2301	768	37.07	784	39.65	813	44.86	842	50.13	869	55.43	895	60.78	920	66.20	945	71.68	968	77.24	991	82.88
57000	2385	784	39.11	799	41.76	828	47.13	856	52.56	883	58.03	909	63.54	934	69.11	958	74.73	981	80.42		
59000	2469	800	41.24	814	43.96	843	49.48	871	55.07	898	60.71	923	66.39	948	72.11	972	77.88	995	83.72		
61000	2552	816	43.47	830	46.25	858	51.91	886	57.67	912	63.47	938	69.32	962	75.20	986	81.13				
63000	2636	833	45.82	846	48.65	874	54.45	901	60.35	927	66.32	952	72.33	976	78.39	1000	84.48				
65000	2720	850	48.28	863	51.16	890	57.08	916	63.13	942	69.26	967	75.44	991	81.66						
67000	2803	867	50.86	880	53.80	906	59.82	932	66.01	957	72.29	981	78.63								
69000	2887	884	53.57	897	56.55	922	62.69	947	68.99	972	75.42	996	81.92								

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 1.10 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
244	100	74	74	74	70	63	57	49	41	71
	80	69	69	68	65	59	52	44	37	66
	70	69	68	67	64	59	52	45	38	65
	60	69	68	66	64	59	53	46	39	65
	50	69	69	65	64	60	54	48	42	65
300	100	80	78	80	77	69	64	56	48	77
	80	75	73	73	71	66	59	51	43	72
	70	74	73	72	70	66	59	52	44	71
	60	74	73	71	69	66	59	52	46	71
	50	74	75	70	69	66	60	54	48	71
350	100	83	82	83	81	74	68	61	53	81
	80	78	77	77	75	70	64	56	49	76
	70	78	77	76	74	70	64	57	49	75
	60	78	77	75	73	70	64	57	50	75
	50	78	78	74	73	70	65	59	53	75
450	100	89	89	88	88	82	76	70	62	88
	80	85	84	82	81	77	72	65	57	82
	70	84	84	82	80	77	72	65	57	82
	60	84	83	81	79	77	72	65	58	82
	50	83	84	82	78	77	72	66	60	81
550	100	93	94	92	93	89	82	76	68	94
	80	89	89	87	86	83	78	71	63	88
	70	89	89	87	85	82	78	71	64	87
	60	89	88	86	84	82	78	72	65	87
	50	88	89	88	83	82	78	72	66	87
610	100	96	97	94	95	92	85	79	72	96
	80	91	92	89	89	86	81	75	67	91
	70	91	91	89	87	85	81	75	67	90
	60	91	91	89	86	84	81	75	68	89
	50	91	91	91	86	84	81	76	70	90

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
670	100	97	99	96	97	94	87	81	74	98
	80	92	94	91	90	88	83	77	70	92
	70	92	93	91	89	87	83	77	70	92
	60	92	93	91	88	86	83	77	70	91
	50	92	93	92	88	86	83	78	72	91
730	100	97	101	99	98	96	89	83	76	100
	80	93	96	93	92	90	85	79	72	94
	70	93	95	93	91	88	84	79	72	93
	60	93	94	92	90	88	84	79	73	93
	50	93	95	93	90	87	84	80	75	93
790	100	98	103	101	99	98	91	84	78	102
	80	94	97	95	93	92	86	80	74	96
	70	94	96	94	92	90	85	80	74	95
	60	94	96	94	91	89	85	81	75	94
	50	95	96	95	92	89	85	82	77	95
850	100	98	104	103	100	100	92	85	79	103
	80	95	99	97	94	94	87	82	76	98
	70	95	98	96	93	92	86	82	76	96
	60	95	97	95	92	91	86	82	76	95
	50	96	98	96	93	91	86	83	79	96
910	100	98	106	104	100	102	93	86	80	105
	80	96	100	98	96	95	88	83	77	99
	70	96	99	97	94	94	87	83	77	98
	60	96	98	97	93	92	87	83	78	97
	50	97	99	97	94	92	87	84	80	97
1000	100	99	109	106	103	104	96	89	83	107
	80	98	103	100	98	97	91	86	80	101
	70	98	102	99	96	96	90	85	80	100
	60	98	101	98	95	94	89	85	81	98
	50	99	102	99	96	94	90	86	82	99

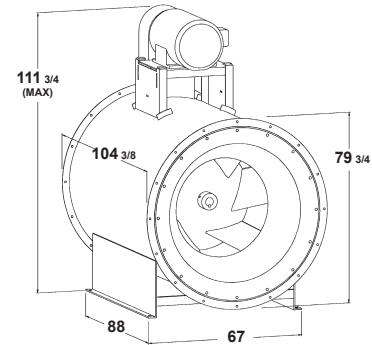
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

# 542

Wheel Diameter = 66.00 in.	Maximum BHP = 139.46 (RPM/1000) <sup>3</sup>
Outlet Area = 29.30 ft. <sup>2</sup>	Max. Motor Frame Size = 405T
Tip Speed, FPM = 17.28 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	NA	NA	NA	NA
II	3266	629	1735	903

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

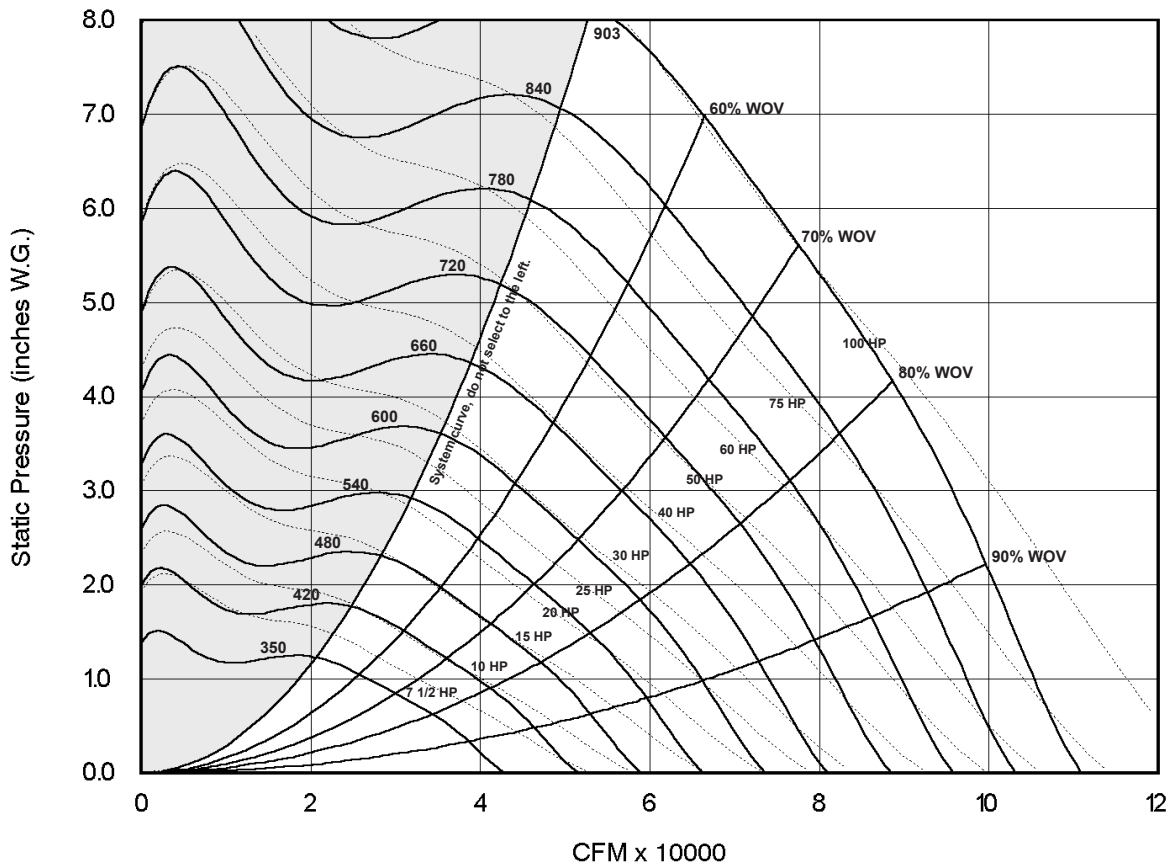
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
24000	819	235	1.63	273	2.75	306	3.92	335	5.15	363	6.47										
26400	901	251	1.94	286	3.13	318	4.40	347	5.71	373	7.09	398	8.54								
26800	915	253	1.99	289	3.20	321	4.49	349	5.81	375	7.19	400	8.66	424	10.21						
31200	1065	285	2.71	315	4.02	344	5.48	371	6.98	396	8.51	419	10.09	441	11.72	462	13.43	483	15.22		
33600	1147	302	3.18	330	4.54	358	6.08	384	7.68	409	9.30	431	10.96	452	12.67	473	14.43	493	16.25	512	18.15
36700	1253	326	3.88	350	5.31	376	6.94	401	8.65	425	10.41	447	12.19	468	14.00	487	15.85	506	17.75	525	19.70
39800	1358	350	4.71	372	6.20	395	7.89	419	9.72	442	11.60	463	13.50	484	15.43	503	17.39	521	19.39	539	21.42
42900	1464	374	5.66	394	7.21	415	8.97	438	10.88	459	12.88	480	14.91	500	16.97	519	19.05	537	21.15	554	23.29
46000	1570	398	6.75	416	8.37	436	10.18	457	12.17	477	14.27	498	16.42	517	18.61	535	20.82	553	23.04	570	25.29
49100	1676	423	7.98	440	9.67	458	11.55	477	13.60	496	15.78	515	18.04	534	20.35	552	22.69	570	25.04	586	27.42
52200	1782	448	9.37	463	11.13	480	13.07	497	15.18	515	17.43	534	19.79	552	22.21	569	24.67	586	27.16	603	29.66
55300	1887	473	10.93	487	12.76	502	14.77	519	16.93	535	19.25	553	21.69	570	24.21	587	26.78	604	29.39	620	32.02
58400	1993	498	12.66	511	14.57	525	16.64	540	18.86	556	21.24	572	23.75	589	26.36	605	29.03	621	31.76	637	34.52
61500	2099	523	14.57	535	16.56	549	18.70	563	20.99	577	23.42	593	25.99	608	28.67	624	31.44	639	34.27	655	37.15
64600	2205	548	16.68	560	18.75	572	20.96	586	23.31	599	25.80	613	28.43	628	31.18	643	34.03	658	36.95	673	39.93
67700	2311	573	19.00	585	21.15	596	23.42	609	25.84	621	28.39	635	31.08	649	33.89	663	36.81	677	39.82	691	42.89
70800	2416	599	21.52	609	23.75	620	26.11	632	28.59	644	31.21	657	33.95	670	36.82	683	39.80	696	42.88	710	46.04
73900	2522	624	24.27	634	26.59	645	29.02	656	31.57	667	34.25	679	37.05	691	39.98	704	43.02	716	46.17	729	49.40
77000	2628	649	27.26	659	29.65	669	32.16	679	34.78	690	37.53	701	40.40	713	43.38	725	46.48	737	49.69	749	52.99
80100	2734	675	30.49	684	32.96	694	35.55	703	38.25	714	41.06	724	43.99	735	47.03	747	50.19	758	53.46	770	56.82

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
38000	1297	548	22.44	565	24.55	600	28.95														
40000	1365	557	23.63	574	25.77	607	30.23	639	34.94												
42000	1433	566	24.88	583	27.07	615	31.60	646	36.36												
44000	1502	576	26.19	592	28.44	623	33.06	653	37.89	683	42.93										
46000	1570	586	27.57	602	29.88	632	34.61	662	39.52	690	44.62	719	49.94								
48000	1638	596	29.00	612	31.38	642	36.23	671	41.23	699	46.42	726	51.79	753	57.38						
50000	1706	607	30.49	622	32.94	652	37.92	680	43.04	707	48.31	734	53.76	760	59.39	786	65.24				
52000	1775	617	32.02	633	34.55	662	39.68	689	44.92	716	50.29	742	55.83	768	61.53	793	67.42	818	73.51		
54000	1843	628	33.61	643	36.22	672	41.50	699	46.87	726	52.36	751	58.00	776	63.78	801	69.74	825	75.87	849	82.20
56000	1911	639	35.25	654	37.95	682	43.38	710	48.90	735	54.52	761	60.26	785	66.14	809	72.17	833	78.37	856	84.74
60000	2048	661	38.70	676	41.56	704	47.32	730	53.15	756	59.05	780	65.04	804	71.14	827	77.37	849	83.73	872	90.24
62000	2116	672	40.51	687	43.45	714	49.38	741	55.37	766	61.42	790	67.55	814	73.78	836	80.12	859	86.59	880	93.18
64000	2184	684	42.38	698	45.40	725	51.50	751	57.65	776	63.86	800	70.14	824	76.51	846	82.97	868	89.54	889	96.23
66000	2253	695	44.31	709	47.41	736	53.67	762	60.00	787	66.37	811	72.81	834	79.31	856	85.91	878	92.60	899	99.40
68500	2338	710	46.83	723	50.02	750	56.49	776	63.02	800	69.60	824	76.23	847	82.93	869	89.70	890	96.55		
71000	2423	725	49.48	738	52.75	764	59.40	790	66.14	814	72.93	837	79.77	860	86.66	881	93.62	902	100.65		
73500	2509	740	52.25	753	55.60	779	62.43	804	69.37	828	76.37	851	83.42	873	90.51	894	97.66				
76000	2594	755	55.16	768	58.59	793	65.58	818	72.71	841	79.91	864	87.17	886	94.48						
78500	2679	771	58.23	784	61.72	808	68.87	832	76.17	855	83.58	878	91.04	900	98.55						
81000	2765	787	61.45	799	65.00	823	72.29	846	79.76	869	87.36	892	95.03								

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = 0.83 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
236	100	76	76	77	72	65	59	51	43	73
	80	72	71	70	67	61	54	46	38	68
	70	71	70	69	66	61	54	47	40	67
	60	71	70	68	66	61	55	48	41	67
	50	72	71	67	66	62	56	50	44	67
295	100	83	80	82	79	71	66	58	50	79
	80	77	76	76	73	68	61	54	46	74
	70	77	76	74	72	68	61	54	47	73
	60	77	76	73	72	68	62	55	48	73
	50	77	77	72	72	68	62	56	50	73
350	100	87	85	86	84	77	71	64	56	84
	80	82	81	80	78	73	67	59	51	79
	70	81	80	79	77	73	67	60	52	78
	60	81	80	78	76	73	67	60	53	78
	50	81	81	77	76	73	68	62	56	78
420	100	91	90	89	89	83	77	70	62	89
	80	86	85	84	82	78	73	65	57	83
	70	86	85	83	81	78	73	65	58	83
	60	85	85	82	80	78	73	66	59	83
	50	85	85	83	80	78	73	67	61	83
480	100	94	94	92	92	88	81	75	67	93
	80	89	89	87	86	82	77	70	62	87
	70	89	88	86	84	82	77	70	62	87
	60	89	88	86	83	81	77	70	63	86
	50	88	89	87	83	81	77	71	65	86
540	100	96	97	94	95	91	84	78	70	96
	80	92	92	90	89	86	81	74	66	91
	70	92	91	89	87	85	81	74	66	90
	60	92	91	89	86	84	81	74	67	89
	50	91	91	90	86	84	81	75	69	89

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
600	100	99	100	96	98	95	87	82	74	99
	80	94	94	92	91	89	84	77	69	93
	70	94	94	92	90	88	84	77	70	93
	60	94	94	92	89	87	84	77	70	92
	50	94	94	93	88	87	84	78	72	92
660	100	100	102	99	99	97	89	84	76	101
	80	95	96	94	93	90	86	79	72	95
	70	95	96	94	92	89	86	79	72	94
	60	95	95	93	91	89	85	79	73	94
	50	95	96	95	91	89	86	80	75	94
720	100	100	104	101	100	99	91	85	79	103
	80	96	98	96	95	92	87	81	74	97
	70	96	98	95	93	91	87	81	75	96
	60	96	97	95	92	90	87	82	75	95
	50	96	97	96	93	90	87	82	77	96
780	100	101	105	103	101	101	93	87	80	104
	80	97	100	98	96	94	88	83	77	98
	70	97	99	97	95	93	88	83	77	98
	60	97	98	96	94	92	88	83	77	97
	50	98	99	98	94	92	88	84	79	97
840	100	101	107	105	102	103	95	88	82	106
	80	98	102	99	97	96	90	85	78	100
	70	98	100	98	96	95	89	85	78	99
	60	98	100	98	95	93	88	85	79	98
	50	99	100	99	96	93	89	86	81	99
903	100	101	109	107	103	105	96	89	83	108
	80	99	103	101	98	98	91	86	80	102
	70	99	102	100	96	96	90	86	80	100
	60	99	101	99	95	95	89	86	81	99
	50	100	102	100	97	95	90	87	83	100

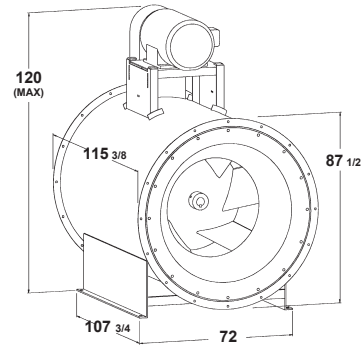
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

# 600

Wheel Diameter = 73.00 in.	Maximum BHP = 230.85 (RPM/1000) <sup>3</sup>
Outlet Area = 35.90 ft. <sup>2</sup>	Max. Motor Frame Size = 405T
Tip Speed, FPM = 19.11 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	NA	NA	NA	NA
II	4634	753	2611	816

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

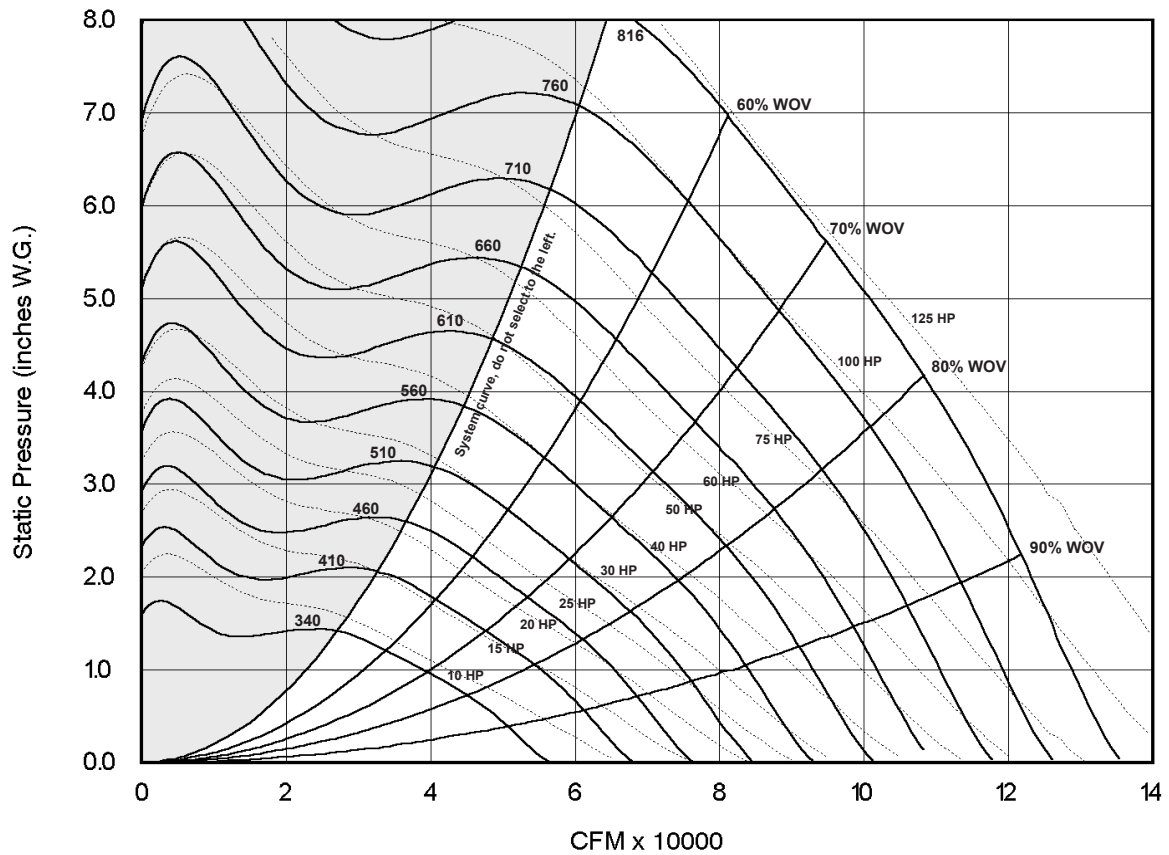
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
28000	780	206	1.85	241	3.16	272	4.54	299	6.01	325	7.61										
31000	864	220	2.20	254	3.62	283	5.12	309	6.68	333	8.33	356	10.09								
34000	947	235	2.62	266	4.13	295	5.75	320	7.41	343	9.14	365	10.96	386	12.88						
37000	1031	251	3.10	279	4.69	307	6.42	331	8.21	354	10.04	375	11.93	395	13.91	415	15.98	434	18.15		
40000	1114	267	3.66	293	5.31	319	7.16	343	9.06	365	11.01	386	13.00	405	15.05	424	17.18	442	19.39	460	21.70
44000	1226	290	4.53	312	6.26	336	8.23	359	10.30	381	12.40	401	14.54	419	16.73	437	18.96	455	21.26	471	23.63
48000	1337	312	5.57	332	7.37	354	9.43	376	11.64	397	13.92	416	16.22	435	18.55	452	20.92	469	23.34	485	25.81
52000	1448	335	6.77	353	8.66	373	10.80	393	13.12	413	15.55	432	18.02	450	20.52	467	23.04	483	25.60	499	28.19
56000	1560	359	8.15	375	10.13	393	12.35	412	14.77	430	17.33	449	19.95	466	22.62	483	25.31	499	28.02	514	30.76
60000	1671	382	9.74	397	11.80	413	14.10	431	16.60	448	19.27	466	22.04	483	24.86	499	27.72	515	30.59	530	33.49
64000	1783	406	11.53	420	13.69	434	16.06	450	18.65	467	21.41	483	24.29	500	27.26	515	30.28	531	33.32	546	36.39
68000	1894	430	13.55	442	15.81	456	18.26	471	20.92	486	23.76	501	26.75	517	29.85	532	33.01	547	36.22	562	39.45
72000	2006	453	15.82	465	18.17	478	20.71	492	23.44	506	26.36	520	29.44	535	32.64	550	35.94	564	39.29	578	42.69
76000	2117	477	18.33	489	20.78	500	23.41	513	26.23	526	29.22	540	32.38	553	35.68	567	39.08	581	42.57	595	46.11
80000	2228	501	21.11	512	23.66	523	26.39	535	29.28	547	32.35	560	35.59	573	38.97	586	42.48	599	46.08	612	49.76
84000	2340	525	24.17	535	26.83	546	29.65	557	32.63	568	35.78	580	39.09	592	42.55	605	46.14	617	49.85	630	53.64
88000	2451	550	27.53	559	30.29	569	33.21	579	36.28	590	39.50	601	42.89	612	46.43	624	50.10	636	53.90	648	57.79
92000	2563	574	31.20	583	34.07	592	37.08	602	40.24	612	43.55	622	47.01	633	50.62	644	54.37	656	58.25	667	62.24
96000	2674	598	35.18	606	38.16	615	41.27	625	44.53	634	47.92	644	51.47	654	55.15	665	58.98	675	62.94	686	67.01
100000	2786	622	39.51	630	42.60	639	45.81	648	49.16	657	52.64	666	56.27	676	60.03	685	63.93	696	67.96	706	72.12

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
46000	1281	494	27.18	510	29.74	541	35.12														
48500	1351	502	28.64	517	31.25	547	36.69														
51000	1421	511	30.19	526	32.86	555	38.39	583	44.20												
53500	1490	520	31.82	534	34.56	562	40.20	590	46.09	617	52.26										
56000	1560	529	33.53	543	36.35	571	42.12	597	48.11	623	54.35	649	60.86								
58500	1630	538	35.32	552	38.22	580	44.14	606	50.25	631	56.58	656	63.15	680	69.98						
61000	1699	548	37.17	562	40.16	589	46.25	614	52.49	639	58.94	663	65.59	687	72.49	710	79.63				
63500	1769	558	39.09	572	42.17	598	48.44	623	54.84	647	61.41	671	68.17	694	75.15	717	82.35	739	89.80		
66000	1838	568	41.07	581	44.26	607	50.71	632	57.28	656	64.00	679	70.88	702	77.96	724	85.24	746	92.75	767	100.48
68500	1908	578	43.12	591	46.41	617	53.06	641	59.81	665	66.68	688	73.71	710	80.90	731	88.28	753	95.86	774	103.66
71000	1978	588	45.24	601	48.64	627	55.49	651	62.43	674	69.47	697	76.65	718	83.97	739	91.47	760	99.14	781	107.02
73500	2047	598	47.43	611	50.93	637	57.99	661	65.13	684	72.35	706	79.69	727	87.16	748	94.79	768	102.57	788	110.54
76000	2117	608	49.69	621	53.30	647	60.57	670	67.90	693	75.32	715	82.84	736	90.47	757	98.23	777	106.15	796	114.22
78500	2187	619	52.04	632	55.74	657	63.22	680	70.76	703	78.38	724	86.08	745	93.88	766	101.80	785	109.85	805	118.05
81000	2256	630	54.46	642	58.27	667	65.95	690	73.70	713	81.52	734	89.42	755	97.40	775	105.48	794	113.68	813	122.02
83500	2326	640	56.99	653	60.88	677	68.76	700	76.72	722	84.75	744	92.84	764	101.01	784	109.27	803	117.63		
86000	2396	651	59.60	664	63.58	687	71.66	710	79.83	732	88.06	754	96.36	774	104.72	794	113.17	813	121.70		
91000	2535	674	65.16	686	69.30	709	77.72	731	86.29	753	94.95	773	103.66	794	112.43	813	121.26				
96000	2674	697	71.19	708	75.46	730	84.20	752	93.14	773	102.19	794	111.32	813	120.51						
101000	2813	721	77.74	732	82.12	753	91.14	774	100.41	794	109.84	814	119.37								

Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

% WOV = .61 (CFM/RPM)

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
207	100	76	77	76	71	64	58	50	42	72
	80	72	71	70	66	60	53	45	37	67
	70	71	70	69	66	60	53	46	38	67
	60	71	70	68	65	60	53	47	40	66
	50	72	70	67	65	61	55	49	43	67
275	100	84	82	84	80	72	67	59	51	81
	80	79	78	77	74	69	62	54	47	75
	70	79	77	76	73	69	62	55	48	75
	60	78	77	75	73	69	62	56	49	74
	50	78	78	74	73	69	63	57	51	74
340	100	89	87	88	86	79	74	66	58	86
	80	84	83	82	80	75	69	61	54	81
	70	84	83	81	79	75	69	62	54	80
	60	84	82	80	78	75	69	62	55	80
	50	83	84	80	78	75	70	64	58	80
410	100	93	92	92	91	85	79	72	64	91
	80	89	88	86	85	81	75	68	60	86
	70	88	87	85	84	80	75	68	60	85
	60	88	87	85	83	80	75	68	61	85
	50	88	88	85	82	80	75	69	63	85
460	100	96	96	94	94	89	82	76	68	95
	80	92	91	89	88	84	79	71	64	89
	70	91	90	88	86	84	79	71	64	88
	60	91	90	88	85	83	79	72	65	88
	50	91	91	88	85	83	79	73	67	88
510	100	98	98	96	97	93	85	80	72	98
	80	94	93	91	90	87	82	75	67	92
	70	94	93	91	89	86	82	75	67	91
	60	94	93	90	88	86	82	75	68	91
	50	93	93	92	87	86	82	76	70	91

RPM	%WOV	Inlet Sound Power, Lwi								
		1	2	3	4	5	6	7	8	LwiA
560	100	100	101	98	99	96	88	83	75	100
	80	96	96	93	93	90	85	78	70	95
	70	96	95	93	91	89	85	78	70	94
	60	96	95	93	90	88	85	78	71	93
	50	95	95	94	90	88	85	79	73	93
610	100	102	103	100	101	98	90	85	77	102
	80	98	98	95	95	92	87	80	73	97
	70	97	98	95	93	91	87	80	73	96
	60	97	97	95	92	90	87	81	74	95
	50	97	97	97	92	90	87	81	76	96
660	100	103	105	102	102	100	92	87	79	104
	80	99	100	97	96	93	89	82	75	98
	70	98	99	97	95	92	89	82	75	97
	60	98	99	96	94	92	88	83	76	97
	50	98	99	98	94	92	89	83	78	97
710	100	104	106	104	103	101	94	88	81	105
	80	100	101	99	97	95	90	84	77	100
	70	99	100	98	96	94	90	84	77	99
	60	99	100	98	95	93	89	84	78	98
	50	99	100	99	95	93	90	85	80	98
760	100	104	108	106	104	103	96	89	83	107
	80	100	103	100	99	97	91	86	79	101
	70	100	102	100	97	95	91	86	79	100
	60	100	101	99	96	94	90	86	80	99
	50	100	102	100	97	94	91	87	82	100
816	100	104	110	108	105	105	97	90	84	108
	80	101	104	102	100	98	92	87	81	102
	70	101	103	101	98	97	92	87	81	101
	60	101	102	100	97	96	91	87	81	100
	50	102	103	101	98	96	92	88	84	101

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

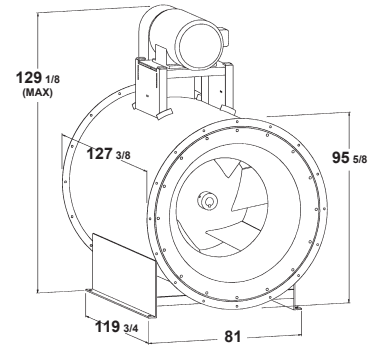


# ESI - Performance Data

Efficient Silent Inline Fan

# 660

Wheel Diameter = 80.75 in.	Maximum BHP = 382.32 (RPM/1000) <sup>3</sup>
Outlet Area = 43.40 ft. <sup>2</sup>	Max. Motor Frame Size = 405T
Tip Speed, FPM = 21.14 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	NA	NA	NA	NA
II	5477	952	4079	742

① WR<sup>2</sup> = Inertial Starting Force  
 ② Maximum RPM is based on operating temperature of 100°F.  
 From 101°F through 200°F multiply RPM by 0.93.

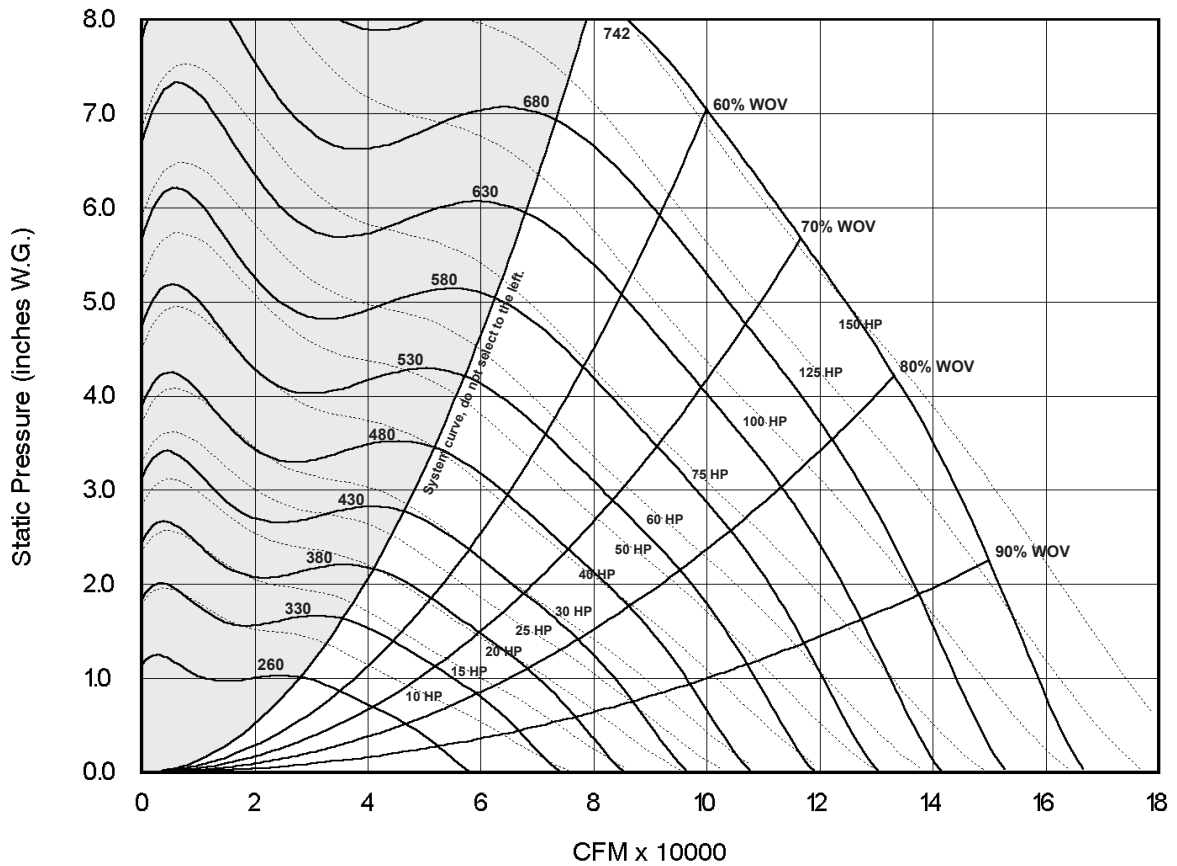
CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
33000	760	182	2.13	215	3.69	242	5.33	267	7.10												
36000	829	192	2.46	223	4.13	250	5.89	274	7.73	297	9.71										
39000	899	203	2.83	233	4.61	259	6.48	282	8.42	304	10.47	324	12.64								
42000	968	214	3.26	242	5.12	267	7.12	290	9.17	311	11.30	331	13.53	350	15.89						
45000	1037	226	3.75	252	5.68	276	7.80	299	9.97	319	12.20	338	14.51	356	16.92	374	19.45	392	22.10		
50000	1152	246	4.69	268	6.73	292	9.03	313	11.41	333	13.83	351	16.30	369	18.84	386	21.47	402	24.20	418	27.03
55000	1267	267	5.83	286	7.97	308	10.40	328	12.98	348	15.60	366	18.27	382	20.98	398	23.75	414	26.60	429	29.52
60000	1382	288	7.17	305	9.41	324	11.95	344	14.70	363	17.53	380	20.40	396	23.31	412	26.25	427	29.25	441	32.31
65000	1498	309	8.73	325	11.07	342	13.72	360	16.60	378	19.62	395	22.70	411	25.81	426	28.95	441	32.13	455	35.36
70000	1613	331	10.54	345	12.98	361	15.73	377	18.72	394	21.89	410	25.16	426	28.48	441	31.84	455	35.21	469	38.63
75000	1728	352	12.60	366	15.16	380	18.00	395	21.10	411	24.40	426	27.83	441	31.35	456	34.91	470	38.49	483	42.11
80000	1843	374	14.93	386	17.61	399	20.55	413	23.75	428	27.16	442	30.74	457	34.42	471	38.18	485	41.97	498	45.80
85000	1959	396	17.57	407	20.37	420	23.41	432	26.70	446	30.21	459	33.91	473	37.75	487	41.68	500	45.67	513	49.70
90000	2074	418	20.51	429	23.43	440	26.59	452	29.97	464	33.58	477	37.38	490	41.35	503	45.44	516	49.60	529	53.83
95000	2189	440	23.78	450	26.83	461	30.10	472	33.58	483	37.28	495	41.19	507	45.27	520	49.49	532	53.81	544	58.22
100000	2304	463	27.40	472	30.58	482	33.96	492	37.55	503	41.35	514	45.35	525	49.53	537	53.87	549	58.33	560	62.89
105000	2419	485	31.39	494	34.70	503	38.20	512	41.90	523	45.80	533	49.89	544	54.16	555	58.61	566	63.19	577	67.89
110000	2535	507	35.77	516	39.21	524	42.83	533	46.64	543	50.64	552	54.82	563	59.19	573	63.73	583	68.43	594	73.25
115000	2650	529	40.54	537	44.12	546	47.86	554	51.79	563	55.89	572	60.18	582	64.64	591	69.28	601	74.07	612	79.00
120000	2765	552	45.74	559	49.45	567	53.32	575	57.36	584	61.57	592	65.96	601	70.52	611	75.25	620	80.14	630	85.18

CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
55000	1267	444	32.54	458	35.66																
58000	1336	451	34.25	465	37.41	492	44.03														
61000	1406	458	36.06	472	39.29	498	46.00	524	53.08												
64000	1475	466	37.97	479	41.28	505	48.12	530	55.27	555	62.79										
67000	1544	474	39.98	487	43.38	512	50.36	537	57.62	560	65.21	584	73.14								
70000	1613	482	42.08	495	45.57	520	52.72	544	60.12	567	67.80	590	75.80								
73000	1682	491	44.25	503	47.85	528	55.19	551	62.74	574	70.55	596	78.64	618	87.03						
76000	1751	499	46.51	512	50.23	536	57.77	559	65.49	581	73.44	602	81.64	624	90.12	645	98.89				
79000	1820	508	48.85	520	52.68	544	60.44	567	68.36	588	76.47	610	84.81	630	93.39	651	102.25	671	111.39		
82000	1889	517	51.26	529	55.22	553	63.21	575	71.33	596	79.63	617	88.12	637	96.83	657	105.79	677	115.01	696	124.50
85000	1959	526	53.75	538	57.83	561	66.06	583	74.41	604	82.90	625	91.56	645	100.43	664	109.51	683	118.83	702	128.40
88000	2028	535	56.33	547	60.53	570	69.01	592	77.59	613	86.29	633	95.14	652	104.17	671	113.39	690	122.83	708	132.51
91000	2097	544	58.99	556	63.32	579	72.04	600	80.86	621	89.78	641	98.84	660	108.05	679	117.43	697	127.01	715	136.80
94000	2166	553	61.74	565	66.19	587	75.17	609	84.23	629	93.38	649	102.65	668	112.06	687	121.62	705	131.35	722	141.28
97000	2235	562	64.58	574	69.15	596	78.38	618	87.69	638	97.09	658	106.58	676	116.19	695	125.94	712	135.85	730	145.93
100000	2304	572	67.53	583	72.21	605	81.68	627	91.25	647	100.89	666	110.62	685	120.45	703	130.40	720	140.49	738	150.74
105000	2419	588	72.69	599	77.55	621	87.41	642	97.39	661	107.44	681	117.58	699	127.79	717	138.11	734	148.54		
110000	2535	605	78.19	615	83.20	636	93.43	657	103.81	676	114.28	695	124.83	713	135.45	731	146.15				
115000	2650	622	84.06	632	89.22	652	99.77	672	110.53	691	121.41	710	132.38	728	143.42						
120000	2765	639	90.35	649	95.63	669	106.48	688	117.58	707	128.85	725	140.23								

- Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.  
 2) Power rating (BHP) does not include belt drive losses.  
 3) Performance ratings do not include the effects of appurtenances in the airstream.  
 4) Bold figures indicate range of highest static efficiency.  
 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

**% WOV = 0.45 (CFM/RPM)**

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
183	100	76	78	76	70	64	57	49	41	72
	80	72	72	70	66	59	52	44	36	67
	70	71	70	69	65	59	52	45	37	66
	60	71	70	68	65	59	53	46	39	66
	50	72	70	68	65	60	54	48	42	66
220	100	81	81	81	76	69	63	55	47	77
	80	77	76	74	71	65	58	50	42	72
	70	76	75	73	70	65	58	51	43	71
	60	76	74	72	70	65	58	52	45	71
	50	77	75	72	70	66	60	54	48	72
260	100	86	84	85	81	74	68	60	52	82
	80	81	80	79	76	70	63	56	48	77
	70	80	79	77	75	70	63	56	49	76
	60	80	79	76	74	70	64	57	50	76
	50	81	80	76	74	71	65	59	53	76
330	100	92	90	91	89	81	76	68	60	89
	80	87	85	84	82	78	71	63	56	83
	70	86	85	83	81	78	71	64	56	83
	60	86	85	82	80	77	71	64	58	82
	50	86	86	82	80	77	72	66	60	82
380	100	95	94	94	92	86	80	73	65	93
	80	90	89	88	86	82	76	68	60	87
	70	90	89	87	85	81	76	68	61	87
	60	90	88	86	84	81	76	69	62	86
	50	89	90	86	84	81	76	70	64	86
430	100	98	97	96	96	90	83	77	69	96
	80	93	92	91	89	85	80	72	64	90
	70	93	92	90	88	85	80	72	65	90
	60	93	92	89	87	84	80	73	66	89
	50	92	92	90	86	84	80	74	68	89

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
480	100	100	100	98	98	94	87	81	73	99
	80	96	95	93	92	88	83	76	68	93
	70	96	95	92	91	88	83	76	69	93
	60	95	94	92	90	87	83	76	69	92
	50	95	95	93	89	87	83	77	71	92
530	100	103	103	100	101	97	90	84	76	102
	80	99	98	95	94	91	86	79	71	96
	70	98	97	95	93	90	86	79	72	95
	60	98	97	95	92	90	86	79	73	95
	50	97	97	96	91	90	86	80	74	95
580	100	105	105	102	103	100	92	87	79	104
	80	100	100	97	97	94	89	82	74	99
	70	100	99	97	95	93	89	82	75	98
	60	100	99	97	94	92	89	82	75	97
	50	99	99	98	93	92	89	83	77	97
630	100	106	107	104	105	102	94	89	81	106
	80	102	102	99	98	96	91	84	77	100
	70	101	101	99	97	95	91	84	77	100
	60	101	101	99	96	94	91	84	78	99
	50	101	101	100	96	94	91	85	80	99
680	100	107	109	106	106	104	96	90	83	108
	80	102	103	101	100	97	92	86	79	102
	70	102	103	100	99	96	92	86	79	101
	60	102	102	100	97	95	92	86	80	100
	50	102	103	101	97	95	92	87	82	100
742	100	107	111	108	107	106	98	92	85	110
	80	103	105	103	101	99	94	88	81	104
	70	103	104	102	100	98	93	88	82	103
	60	103	104	102	99	97	93	88	82	102
	50	103	104	103	100	97	94	89	84	103

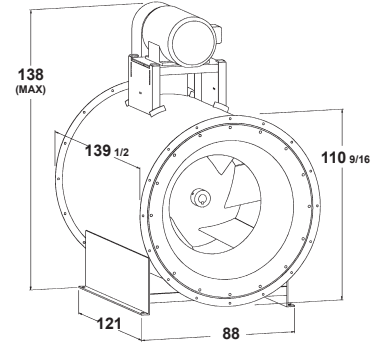
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# ESI - Performance Data

Efficient Silent Inline Fan

## 730

Wheel Diameter = 89.00 in.	Maximum BHP = 621.82 (RPM/1000) <sup>3</sup>
Outlet Area = 53.10 ft. <sup>2</sup>	Max. Motor Frame Size = 405T
Tip Speed, FPM = 23.3 x RPM	



Class	Fan Weight (Lbs.)	Wheel Weight (Lbs.)	WR <sup>2</sup> ① (Lbs. Ft. <sup>2</sup> )	Max. Wheel RPM <sup>②</sup> (Steel or Aluminum)
I	NA	NA	NA	NA
II	7365	1298	6804	671

① WR<sup>2</sup> = Inertial Starting Force

② Maximum RPM is based on operating temperature of 100°F.  
From 101°F through 200°F multiply RPM by 0.93.

CFM	OV	1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP		2 1/4" SP		2 1/2" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
40000	753	165	2.57	195	4.47	220	6.46	242	8.61												
44000	829	175	3.01	203	5.06	228	7.20	249	9.45	270	11.86										
48000	904	186	3.52	212	5.70	236	8.00	257	10.38	277	12.88	295	15.53								
52000	979	197	4.11	222	6.40	245	8.86	265	11.40	284	14.01	302	16.75	319	19.62	336	22.66				
56000	1055	209	4.79	231	7.16	254	9.79	274	12.48	292	15.24	309	18.08	326	21.04	342	24.13	357	27.37		
62500	1177	229	6.08	248	8.59	269	11.43	288	14.39	306	17.40	322	20.47	338	23.62	353	26.86	368	30.20	382	33.67
69000	1299	249	7.64	266	10.28	285	13.29	303	16.49	320	19.78	336	23.10	351	26.48	366	29.92	380	33.44	393	37.05
75500	1422	269	9.49	285	12.26	301	15.41	318	18.82	335	22.36	351	25.96	365	29.59	379	33.27	393	37.01	406	40.81
81000	1525	287	11.31	301	14.20	316	17.45	332	21.00	348	24.73	363	28.55	377	32.42	391	36.32	404	40.26	417	44.25
87500	1648	308	13.78	321	16.81	334	20.18	349	23.88	363	27.80	378	31.85	392	35.99	406	40.16	418	44.37	431	48.61
93000	1751	326	16.15	337	19.31	350	22.79	363	26.59	377	30.65	391	34.88	405	39.22	418	43.61	431	48.05	443	52.52
99500	1874	347	19.32	358	22.63	369	26.25	382	30.17	394	34.36	407	38.77	420	43.32	433	47.97	445	52.67	457	57.41
105000	1977	365	22.33	375	25.77	386	29.50	397	33.53	409	37.83	421	42.36	434	47.07	446	51.91	458	56.82	470	61.78
111500	2100	387	26.29	396	29.89	406	33.77	416	37.93	427	42.35	439	47.01	450	51.88	462	56.91	473	62.05	485	67.26
118000	2222	408	30.72	417	34.49	426	38.52	436	42.80	446	47.35	456	52.14	467	57.15	478	62.34	489	67.67	500	73.10
124500	2345	430	35.64	438	39.59	447	43.76	456	48.19	465	52.86	475	57.77	485	62.91	495	68.24	505	73.74	516	79.37
131000	2467	451	41.09	459	45.21	467	49.54	476	54.11	484	58.91	494	63.95	503	69.21	513	74.67	522	80.32	532	86.12
137500	2589	473	47.09	480	51.38	488	55.87	496	60.59	504	65.52	513	70.69	521	76.07	530	81.66	540	87.44	549	93.39
144000	2712	495	53.67	502	58.13	509	62.79	516	67.65	524	72.73	532	78.02	540	83.53	549	89.24	558	95.14	566	101.23
150500	2834	516	60.85	523	65.48	530	70.31	537	75.33	544	80.55	552	85.98	560	91.61	568	97.44	576	103.47	584	109.68

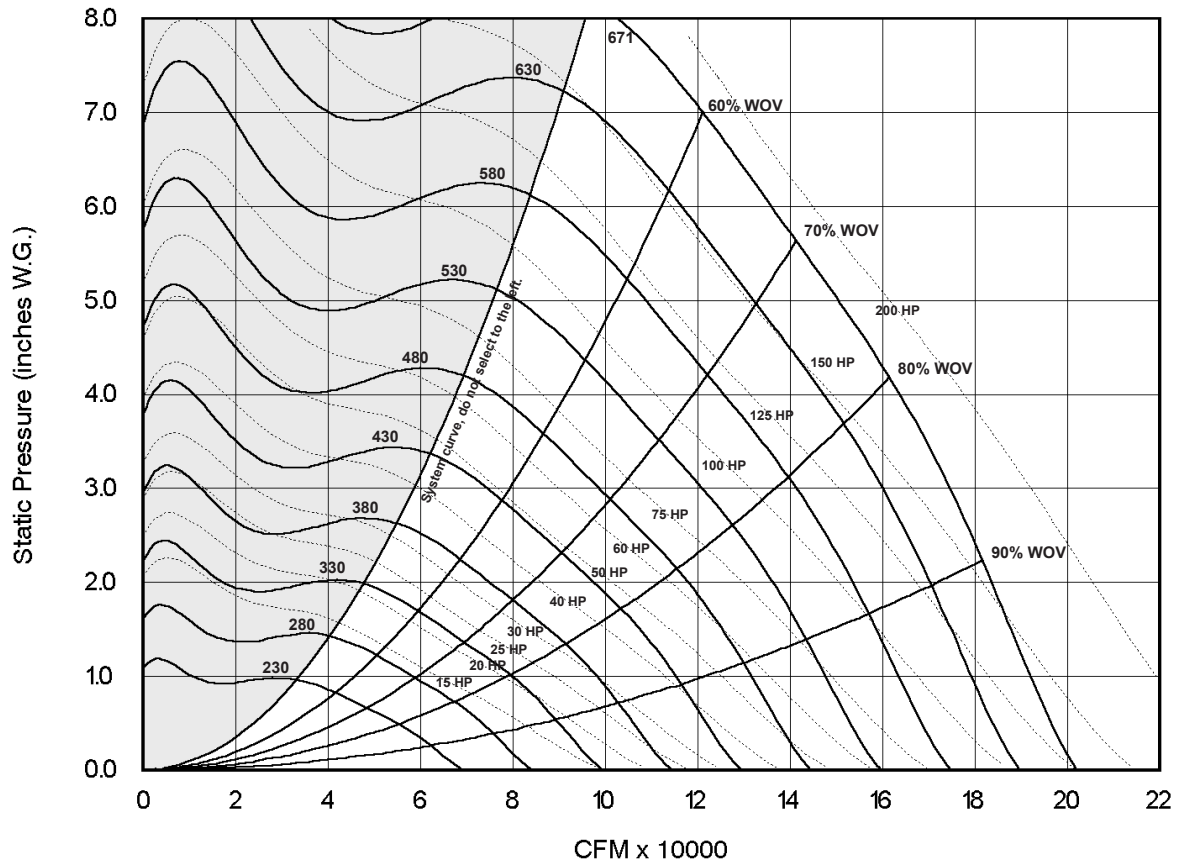
CFM	OV	2 3/4" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
70000	1318	408	41.33	421	45.17	446	53.20														
74000	1394	415	43.74	428	47.66	452	55.81	476	64.41												
78000	1469	423	46.29	435	50.32	459	58.63	481	67.34	504	76.47										
82000	1544	431	48.99	443	53.13	466	61.64	488	70.49	509	79.73	531	89.37								
86000	1620	440	51.80	451	56.08	473	64.82	495	73.86	516	83.23	536	92.97	557	103.10						
90000	1695	448	54.74	459	59.16	481	68.16	502	77.41	523	86.96	543	96.83	562	107.05	582	117.66				
94000	1770	457	57.80	468	62.37	490	71.65	510	81.14	530	90.89	549	100.92	568	111.28	587	121.98	606	133.04		
98000	1846	465	60.96	477	65.70	498	75.28	518	85.04	538	95.02	557	105.24	575	115.76	593	126.58	611	137.73	629	149.23
102000	1921	474	64.25	485	69.15	506	79.05	527	89.09	546	99.32	564	109.77	582	120.47	600	131.45	618	142.73	635	154.32
106000	1996	483	67.65	494	72.72	515	82.94	535	93.29	554	103.79	572	114.49	590	125.40	607	136.56	624	147.99	641	159.71
110000	2072	492	71.17	503	76.40	524	86.96	543	97.63	562	108.42	580	119.38	598	130.54	615	141.91	632	153.52	648	165.39
115000	2166	504	75.75	514	81.20	535	92.17	554	103.25	573	114.43	591	125.75	608	137.23	625	148.89	641	160.76	657	172.87
120000	2260	515	80.56	526	86.20	546	97.59	565	109.08	584	120.67	601	132.37	618	144.20	635	156.19	651	168.36	666	180.72
125000	2354	527	85.62	538	91.43	557	103.22	576	115.13	595	127.13	612	139.23	629	151.44	645	163.79	661	176.28		
130000	2448	540	90.94	549	96.92	569	109.08	588	121.40	606	133.83	623	146.34	639	158.95	656	171.66				
135000	2542	552	96.55	562	102.69	581	115.20	599	127.92	617	140.76	634	153.69	650	166.70	666	179.81				
140000	2637	565	102.48	574	108.76	593	121.59	611	134.68	628	147.93	645	161.28	661	174.71						
145000	2731	578	108.75	587	115.15	605	128.28	622	141.72	639	155.36	656	169.12								
150000	2825	591	115.38	600	121.89	617	135.29	634	149.06	651	163.06	668	177.22								
155000	2919	605	122.38	613	129.00	630	142.65	646	156.71	663	171.06										

- Notes: 1) Performance shown is for Installation Type B: free inlet, ducted outlet.
- 2) Power rating (BHP) does not include belt drive losses.
- 3) Performance ratings do not include the effects of appurtenances in the airstream.

- 4) Bold figures indicate range of highest static efficiency.
- 5) Approximate fan weights are less motor and accessories.

# Sound Power Levels - ESI

Efficient Silent Inline Fan



## Sound Power [dB]

**% WOV = 0.34 (CFM/RPM)**

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
165	100	77	79	76	69	64	56	48	40	72
	80	72	72	70	66	59	51	44	36	67
	70	72	71	69	66	59	52	44	37	67
	60	72	70	68	66	59	52	45	39	66
	50	73	70	68	66	60	54	48	42	67
200	100	82	82	81	76	69	63	55	47	78
	80	77	77	75	71	65	58	50	42	72
	70	77	76	74	71	65	58	51	43	72
	60	77	75	73	71	65	58	52	45	72
	50	78	75	73	71	66	60	54	48	72
230	100	86	85	85	80	73	67	59	51	81
	80	81	80	78	75	70	62	55	47	76
	70	80	79	77	75	70	62	55	48	76
	60	80	79	76	74	70	63	56	49	75
	50	81	79	76	74	70	64	58	52	76
280	100	91	89	90	87	79	74	66	58	87
	80	86	84	83	81	76	69	61	53	82
	70	86	84	82	80	76	69	61	54	81
	60	85	84	81	79	76	69	62	55	81
	50	85	85	80	79	76	70	64	58	81
330	100	95	93	94	92	84	79	71	63	92
	80	90	88	87	85	81	74	66	59	86
	70	90	88	86	84	81	74	67	59	86
	60	89	88	85	83	80	74	67	61	85
	50	89	89	85	83	80	75	69	63	85
380	100	98	97	97	95	89	83	76	68	96
	80	94	92	91	89	85	79	71	63	90
	70	93	92	90	88	84	79	71	64	90
	60	93	91	89	87	84	79	72	65	89
	50	93	93	89	87	84	79	73	67	89

RPM	%WOV	Inlet Sound Power, Lwi								LwiA
		1	2	3	4	5	6	7	8	
430	100	101	100	99	99	93	86	80	72	99
	80	97	95	94	92	88	82	75	67	93
	70	96	95	93	91	88	82	75	68	93
	60	96	95	92	90	87	83	76	69	92
	50	96	95	93	89	87	83	77	71	92
480	100	103	103	101	101	97	90	84	76	102
	80	99	98	96	95	91	86	79	71	96
	70	99	98	95	94	91	86	79	72	96
	60	99	97	95	93	90	86	79	72	95
	50	98	98	96	92	90	86	80	74	95
530	100	106	106	103	104	100	92	87	79	105
	80	102	101	98	97	94	89	82	74	99
	70	101	100	98	96	93	89	82	75	98
	60	101	100	98	95	93	89	82	75	98
	50	101	100	99	94	93	89	83	77	98
580	100	108	108	105	106	103	95	90	82	107
	80	104	103	100	100	97	92	85	77	102
	70	103	103	100	98	96	92	85	78	101
	60	103	102	100	97	95	92	85	78	100
	50	103	102	101	96	95	92	86	80	100
630	100	109	110	107	108	105	97	92	84	109
	80	105	105	102	101	99	94	87	80	103
	70	104	104	102	100	98	94	87	80	103
	60	104	104	102	99	97	94	87	81	102
	50	104	104	103	98	97	94	88	83	102
671	100	110	111	108	109	106	99	93	86	110
	80	106	106	104	103	100	95	89	82	105
	70	105	106	103	101	99	95	89	82	104
	60	105	105	103	100	98	95	89	82	103
	50	105	105	104	100	98	95	90	84	103

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation Type: B free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# Sample Specifications

## ESI - Efficient Silent Inline Fans

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### General

Furnish and install as shown on the plans PennBarry ESI Inline Fans of the non-overloading design and of the Arrangement 9. Unless otherwise directed, fans shall conform to the layout as shown on the drawings.

Fans shall be constructed of low carbon steel and painted with an approved coating. Each fan shall receive a documented inspection by a qualified inspector before leaving the factory. The inspection will include the welding, dimensions, bearings and overall workmanship.

Fan shall be cUL listed for UL705.

### Performance

Fan air performance shall be based on tests conducted in accordance with AMCA Standard 210. Fans shall be non-overloading and shall have a sharply rising pressure characteristic extending through the operating range and continuing to rise well beyond the efficiency peak to assure quiet and stable operation under all conditions. Horsepower characteristics shall be truly self-limiting and shall reach a peak in the normal selection area.

### Wheels

Wheels shall be in accordance with the standard sizes adopted by AMCA for tubular fans. Wheels shall be the high efficient, non-overloading, airfoil type only. Airfoil blades shall be die-formed, double surface type blades continuously welded (stitch welding unacceptable) to a hub plate and wheel cone. All fans shall have tapered, smooth flowing, wheel cones (flat cones unacceptable). The standard coating shall be an industrial alkyd enamel.

### Shafts

Shafts shall be AISI C-1045 hot rolled steel turned, ground and polished. The shaft's first critical speed shall be at least 142% of the fan's maximum operating speed. This critical speed will refer to the top of the speed range for the fan's AMCA class.

### Bearings

Bearings shall be designed for heavy-duty service with a minimum L10 life of 40,000 hours for Class I fans and 120,000 hours for Class II fans. This performance is based on the maximum operating speed of the fan's AMCA class, the operating temperature of the fan, and the horsepower. Bearings shall be heavy-duty, self-aligning pillow block type. Pillowblock bearings shall be either single row ball or double row spherical roller type. Fans shall be equipped with grease lines extending from the bearings to a point on the fan exterior.

### Belt Guard

Standard construction shall include a totally enclosed belt guard. These guards shall be solid steel sheet.

### Balancing

Wheels shall be dynamically balanced, individually to ANSI S2.19, G6.3. Assembled fans shall then be dynamically balanced using a vibration analyzer to measure velocity. The final reading shall not exceed 0.1 inches per second at the fan shaft speed. The exact level of vibration will be recorded on the fans as proof of the final dynamic balance at the factory.

### Accessories

Accessories shall be provided as called for in the plans and specifications. Optional accessories include bolted access door, quick open access door, drain, variable inlet vanes with stainless steel rods, inlet companion flange, discharge companion flange, inlet screen, discharge screen, shaft seal, discharge cap, curb cap, belt tube, spark resistant construction and vibration isolators.

### Submittals

Submittals for approval of equipment shall include \_\_\_\_\_ copies of outline drawings, sound power ratings and pressure volume curves showing point of operation.

### Sound Power Levels

Manufacturer shall provide sound power ratings in the eight octave bands. Sound power levels shall be based on AMCA Standard 301. Sound power ratings shall be in decibels, referenced to  $10^{-12}$  watts.

### General Construction

Housings shall be of heavy gauge steel, structurally reinforced and suitably braced to prevent vibration or pulsation, and shall be arc welded throughout. Lifting lugs shall be welded to the housing to facilitate handling of the fans. Straightening vanes shall be standard construction to assure maximum efficiency and lowest noise levels.

# One Year Limited Warranty

Efficient Silent Inline Fans - ESI

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## What Products Are Covered

PennBarry Commercial and Industrial Fans (each, a “PennBarry Product”)

## One Year Limited Warranty For PennBarry Products

PennBarry warrants to the original commercial purchaser that the PennBarry Products will be free from defects in material and workmanship for a period of one (1) year from the date of shipment.

## Exclusive Remedy

PennBarry will, at its option, repair or replace (without removal or installation) the affected components of any defective PennBarry Product; repair or replace (without removal or installation) the entire defective PennBarry Product; or refund the invoiced price of the PennBarry Product. In all cases, a reasonable time period must be allowed for warranty repairs to be completed.

## What You Must Do

In order to make a claim under these warranties:

1. You must be the original commercial purchaser of the PennBarry Product.
2. You must promptly notify us within the warranty period of any defect and provide us with any substantiation that we may reasonably request.
3. The PennBarry Product must have been installed and maintained in accordance with good industry practice and any specific PennBarry recommendations.

## Exclusions

These warranties do not cover defects caused by:

1. Improper design or operation of the system into which the PennBarry Product is incorporated.
2. Improper installation.
3. Accident, abuse or misuse.
4. Unreasonable use (including any use for non-commercial purposes, failure to provide reasonable and necessary maintenance as specified by PennBarry, misapplication and operation in excess of stated performance characteristics).
5. Components not manufactured by PennBarry.

## Limitations

1. In all cases, PennBarry reserves the right to fully satisfy its obligations under the Limited Warranties by refunding the invoiced price of the defective PennBarry Product (or, if the PennBarry Product has been discontinued, of the most nearly comparable current product).
2. PennBarry reserves the right to furnish a substitute or replacement component or product in the event a PennBarry Product or any component of the product is discontinued or otherwise unavailable.
3. PennBarry’s only obligation with respect to components not manufactured by PennBarry shall be to pass through the warranty made by the manufacturer of the defective component.

## General

**The foregoing warranties are exclusive and in lieu of all other warranties except that of title, whether written, oral or implied, in fact or in law (including any warranty of merchantability or fitness for a particular purpose).**

**PennBarry hereby disclaims any liability for special, punitive, indirect, incidental or consequential damages, including without limitation lost profits or revenues, loss of use of equipment, cost of capital, cost of substitute products, facilities or services, downtime, shutdown or slowdown costs.**

The remedies of the original commercial purchaser set forth herein are exclusive and the liability of PennBarry with respect to the PennBarry Products, whether in contract, tort, warranty, strict liability or other legal theory shall not exceed the invoiced price charged by PennBarry to its customer for the affected PennBarry Product at the time the claim is made.

Inquiries regarding these warranties should be sent to: PennBarry, 1401 North Plano Road, Richardson, TX 75081.

# OTHER PENNBARRY PRODUCTS

## CENTRIFUGAL PRODUCTS



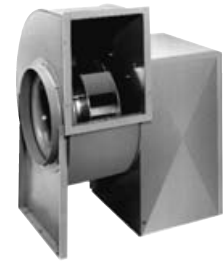
**Domex**  
Centrifugal  
Roof Exhausters



**Fumex Fatrap**  
Kitchen Hood Centrifugal  
Roof Exhausters



**Zephyr**  
Ceiling and Inline Fans



**Dynamo**  
Centrifugal Blowers



**Centrex Inliner**  
Centrifugal Inline Fans



**LC Dynafan**  
Low Contour Centrifugal  
Roof Exhausters

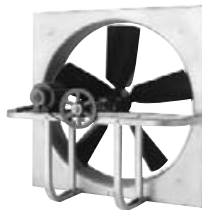


**ESI**  
Efficient Silent  
Inline Fan



**Fume Exhaust**  
Curb Mounted  
Centrifugal Fans

## AXIAL / GRAVITY PRODUCTS



**Breezeway**  
Propeller Wall Fans



**HI-EX**  
Power Roof Ventilator



**Tubeaxial**  
Inline Fans



**Vaneaxial**  
Inline Fans



**Powered Airette**  
Axial Roof Ventilators



**Airette**  
Gravity Intake/Relief Hood



**Domex Axial**  
Axial Roof Ventilators



**Axcentrix**  
Bifurcator Fan

For more information contact your local PennBarry Sales  
Manufacturer Representative or visit us at [www.PennBarry.com](http://www.PennBarry.com)

