



## Backwardly Inclined Blowers

Bulletin AS0953

November 2003

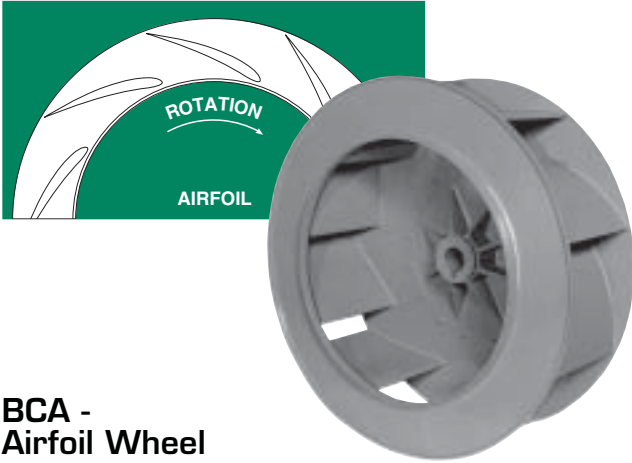
SINGLE WIDTH  
SINGLE INLET  
12<sup>1</sup>/<sub>4</sub>" THROUGH  
66" DIAMETER



A Fläkt Woods Company

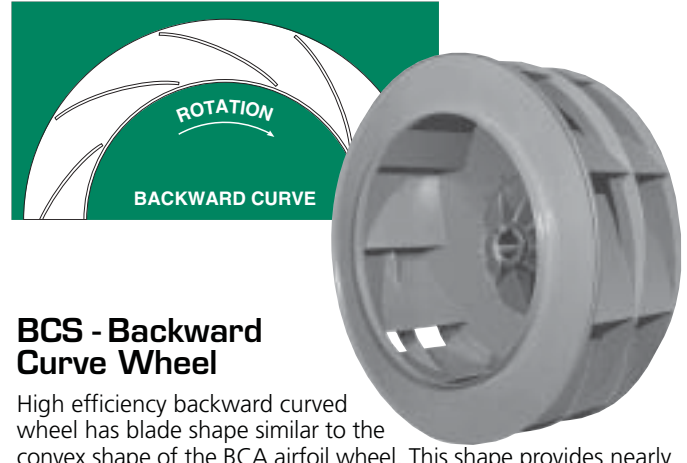
**American  
Fan Company**

# WHEELS



## BCA - Airfoil Wheel

High efficiency backwardly inclined airfoil bladed wheel designed for clean, dry air applications. BCA wheels exhibit non-overloading horsepower characteristics and stable performance over the entire pressure curve. Noise levels are lowest in the peak efficiency range of the performance curve. Class 3 wheels utilize internal blade stiffeners for higher tip speed capability.



## BCS - Backward Curve Wheel

High efficiency backward curved wheel has blade shape similar to the convex shape of the BCA airfoil wheel. This shape provides nearly identical performance characteristics at a given speed at a slightly lower efficiency. BCS wheels also exhibit the same non-overloading horsepower characteristics and stable performance over the entire pressure curve. BCS wheels should be specified in moist or lightly contaminated air systems. Noise levels are lowest in the peak efficiency range of the performance curve. Class 3 wheels utilize a circumferential blade stiffener for higher tip speed capability.

# BEARINGS



200 Series normal duty ball bearings used on class 1 and 2 on sizes 122 through 445. Eccentric cam locking collars hold the bearings securely to the shaft and further tightens with bearing rotation. Bearings are grease relubricable with steel-clad lip seals. Sizes 2-7/16" diameter and larger feature spring locking collars.



300 Series heavy duty ball bearings used on class 3 on sizes 122 through 330. The spring locking collar design provides a secure grip of the wide inner ring bearing to the shaft. Bearings are grease relubricable with felt contact seals.



22400 Series heavy duty double row spherical roller bearings used on class 1 and 2 on sizes 490 through 660 and on class 3 on sizes 365 through 660. The spring locking collar design provides a secure grip of the wide inner ring bearing to the shaft. Bearings are grease relubricable with floating labyrinth seals which feature multiple self-centering rings held securely in a steel carrier.

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# RATINGS



American Fan Company certifies that the models BCA, BCS, QBCA, and QBCS 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.

## FEATURES



Sizes 122 thru 200



Sizes 222 thru 330



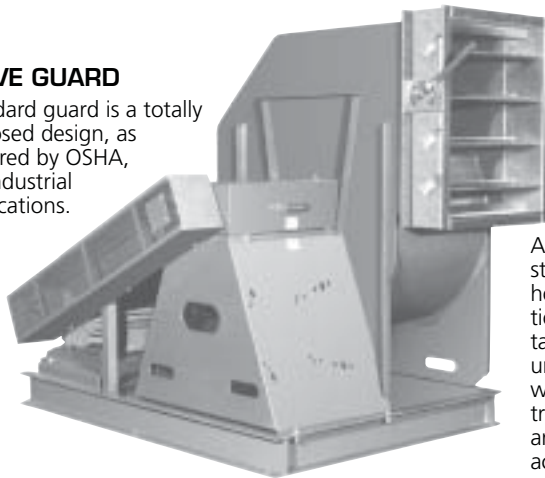
Sizes 365 thru 660

- Choice of two wheel types: Backward Curve (BCS) 12 1/4" diameter through 66" diameter, or Airfoil (BCA) 18 1/4" diameter through 66" diameter.
- Drilled outlet flange and slip collar inlet-standard.
- Pressures to 17" SP wg, Volumes to 100,000 CFM.
- Arrangement 1 bases prepunched for motor slide bases.
- Fork lift slots and lifting eyes in base for ease of handling and installation up through size 330.
- Available in standard or "Q" design
- Heavy gage continuously welded housings, reversible and rotatable through size 330, fixed on sizes 365 and up.
- Heavy duty anti-friction, self-aligning ball or roller bearings with positive shaft locking.
- Close tolerance 1141 turned, ground, and polished shafting.
- Two-plane dynamically balanced wheels.

## ACCESSORIES

### DRIVE GUARD

Standard guard is a totally enclosed design, as required by OSHA, for industrial applications.



### OUTLET DAMPER

Heavy-duty damper bolts onto blower outlet flange for controlled air flow. Parallel or opposed blade designs are furnished. Either manual or motorized operator is available.

### ARRT. 1 UNITARY

American Fan Co. offers unitary bases constructed of heavy channel iron for high horse power or high temperature applications where ARRT. 9 is impractical. The unitary base design is a complete packaged unit simplifying handling and installation while providing a more uniform weight distribution necessary when vibration isolators are used. Unitary bases also allow excellent access for routine maintenance.



### ACCESS DOOR

Heavy-duty bolt-on type provided as the standard design. Quick release and other types including extended access for high temperature insulated housing applications are available.

## ADDITIONAL AVAILABLE ACCESSORIES

- |  |   |                                 |                       |
|--|---|---------------------------------|-----------------------|
| ■ Housing drain                                | ■ Stuffing box  | ■ Radial inlet vane damper      | ■ Flexible connectors |
| ■ Inlet screen                                 | ■ Mechanical shaft seal                               | ■ Flexible coupling for arr't 8 | ■ Companion flanges   |
| ■ Outlet screen                                | ■ Spark resistant construction                        | ■ Special coatings              | ■ Weather cover       |
| ■ High-temperature construction up to 1000° F. | ■ Stainless steel, aluminum, or other alloy airstream | ■ Flanged inlet                 | ■ Vibration isolators |
|  |   | ■ Slip connection discharge     | ■ Shaft seal          |

## TYPICAL APPLICATIONS

- Air pollution control systems
- Dryers and ovens
- HVAC
- Forced draft
- Boiler windbox
- Make-up air
- Fume control
- Air curtains
- Electronics cooling

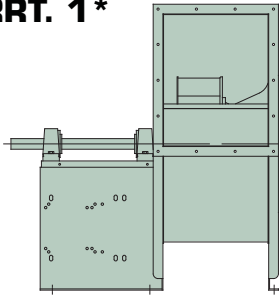
## MAJOR INDUSTRIES

- Energy
- Pulp and Paper
- Commercial building
- Automotive
- Textile
- Petrochemical
- Steel

# ARRANGEMENTS

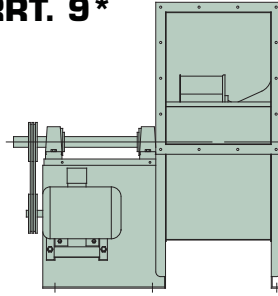
\*Also available in "Q" design. See pages 82-91.

## ARRT. 1\*



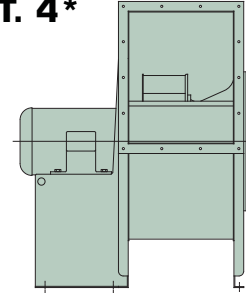
The fan wheel is overhung with both bearings mounted on a common pedestal. ARRT. 1 is suitable for high temperature and/or corrosive environment. Fan can be belt driven or directly coupled to drive motor mounted on a separate base.

## ARRT. 9\*



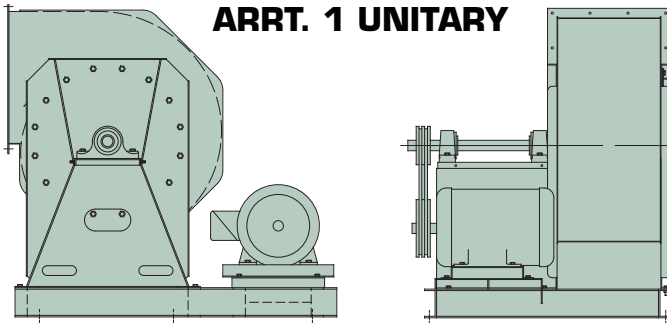
The fan wheel is overhung with both bearings mounted on a common pedestal. Fan is belt driven with drive motor mounted on bearing pedestal for a more compact unit suitable for high temperature and/or corrosive environment.

## ARRT. 4\*



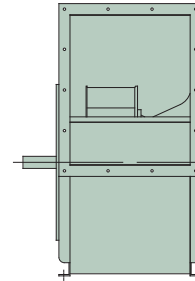
Direct drive fan with wheel mounted directly on motor shaft. Unit is designed for standard temperature applications only. With no belt loss, the direct drive fan operates at a higher efficiency.

## ARRT. 1 UNITARY



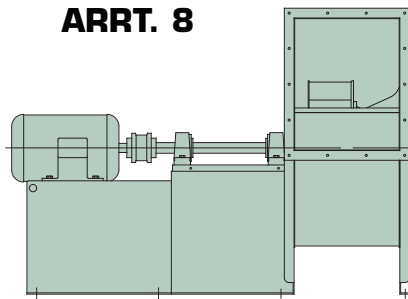
Arrangement 1 fan is mounted on a common channel iron base with motor and slide base. Commonly used when motor frame size exceeds arrangement 9 limitations and for high temperature applications. Also ideal for use with vibration isolators.

## ARRT. 3\*



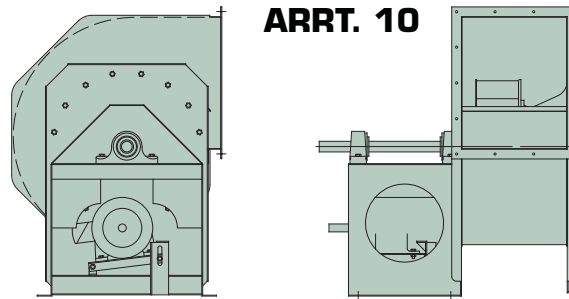
Belt drive or direct drive through coupling. Wheel is center hung with one bearing on each side supported by fan housing. Performance is slightly derated due to bearing in airstream. Designed for clean, dry, normal temperature applications only.

## ARRT. 8



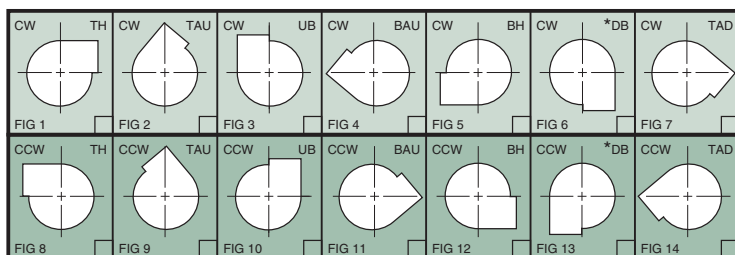
Direct drive fan through shaft and bearings. Efficiency of ARRT. 4 is maintained. However, ARRT. 8 may be used for high temperature and/or corrosive applications which require the motor shaft to be outside of airstream.

## ARRT. 10



The fan wheel is overhung with both bearings mounted on a common pedestal. Fan is belt driven with drive motor mounted inside the bearing pedestal. Unit is compact and is commonly provided with an optional weather cover which encloses the shaft, bearings, drives and motor.

# DISCHARGE POSITIONS



\*Downblast discharge on sizes 122 through 330 can either be supplied without outlet flange or with flange and discharge extended to 2" below mounting surface of base. There is an additional charge for extending discharge. Sizes 365 through 660 are supplied with integral flush outlet flange.

NOTE: ROTATION VIEWED FROM DRIVEN SIDE

# CONSTRUCTION MATERIALS

FAN SIZE	CHANNEL SIDE	CHANNEL TOP	MBFP/ INL. PLT	INLET VENTURI	WHEEL SPINNING	CLASS 1 & 2						CLASS 3									
						HSG. SIDE	HSG. SCROLL	BCS BLADE	BCA BLADE	WHL. BKPLT.	SHAFT DIA.	BEARINGS	HSG. SIDE	HSG. SCROLL	BCS BLADE	BCS BLADE REIN.	BCA BLADE	BCA BLADE REIN.	WHL. BKPLT.	SHAFT DIA.	BEARINGS
122	12	12	12	14	14	12	14	14	—	12	1 1/16	P3-Y219N	10	12	12	14	—	—	10	1 1/16	P-323
135	12	12	12	14	14	12	14	14	—	12	1 1/16	P3-Y219N	10	12	12	14	—	—	10	1 1/16	P-323
150	12	12	12	14	14	12	14	14	—	12	1 1/16	P3-Y219N	10	12	12	14	—	—	10	1 1/16	P-323
165	10	10	10	14	12	12	12	14	—	12	1 1/16	P3-Y223N	10	10	12	12	—	—	10	1 1/16	P-327
182	10	10	10	12	12	12	12	12	18	12	1 1/16	P3-Y223N	10	10	10	12	18	16	10	1 1/16	P-327
200	10	10	10	12	12	12	12	12	18	12	1 1/16	P3-Y223N	10	10	10	12	18	16	10	1 1/16	P-331
222	7	7	10	12	12	10	12	12	18	10	1 1/16	P3-Y227N	10	10	10	12	18	16	7	1 1/16	P-331
245	7	7	10	12	10	10	12	10	16	10	1 1/16	P3-Y227N	10	10	7	10	16	14	7	2 3/16	P-335
270	1/4	1/4	7	12	10	10	12	10	16	10	1 1/16	P3-Y227N	10	10	7	10	16	14	7	2 3/16	P-335
300	1/4	1/4	7	12	10	10	12	10	16	7	1 1/16	P3-Y231N	10	10	7	10	16	14	1/4	2 1/16	P-339
330	1/4	1/4	7	12	7	10	12	10	16	7	2 3/16	P3-Y235N	7	7	7	7	16	12	1/4	2 1/16	P-343
365	3/8	3/8	—	12	7	10	10	10	16	7	2 1/16	P3-Y239N	7	7	7	7	16	12	1/4	2 1/16	P-B22443H
402	3/8	3/8	—	12	7	10	10	10	16	7	2 1/16	P-243	7	7	7	7	16	12	1/4	2 1/16	P-B22447H
445	3/8	3/8	—	12	7	10	10	10	16	7	2 1/16	P-243	7	7	7	7	16	12	1/4	2 1/16	P-B22447H
490	3/8	3/8	—	10	1/4	10	10	7	14	1/4	2 3/16	P-B22447H	7	7	1/4	1/4	14	12	5/16	3/16	P-B22455H
542	3/8	3/8	—	10	1/4	10	10	7	14	1/4	3 3/16	P-B22451H	7	7	1/4	1/4	14	12	5/16	3 1/16	P-B22459H
600	3/8	1/2	—	10	1/4	10	10	7	14	1/4	3 3/16	P-B22455H	7	7	1/4	1/4	14	10	5/16	4 1/16	P-B22571H
660	3/8	1/2	—	10	1/4	10	10	7	14	1/4	3 3/16	P-B22463H	7	7	1/4	1/4	14	10	5/16	4 1/16	P-B22571H

NOTE: Bearings are Link-Belt or equivalent.

# WHEEL WEIGHTS AND WR<sup>2</sup>

## BCA AIRFOIL WHEELS

SIZE	DIA. (INCHES)	CL. 1 & 2		CL. 3	
		WEIGHT (LBS)	WR <sup>2</sup> (LBS-FT <sup>2</sup> )	WEIGHT (LBS)	WR <sup>2</sup> (LBS-FT <sup>2</sup> )
182	18 1/4	32	9.6	34	10.2
200	20	36	13.0	39	14.0
222	22 1/4	51	22.7	57	25.4
245	24 1/2	64	34.6	71	38.4
270	27	74	48.6	83	54.5
300	30	110	89.1	124	100
330	33	135	132	154	151
365	36 1/2	159	191	183	219
402	40 1/4	223	325	251	366
445	44 1/2	258	460	294	524
490	49	407	882	445	962
542	54 1/4	419	1110	532	1409
600	60	615	1993	681	2206
660	66	715	2803	797	3125

## BCS BACKWARD CURVE WHEELS

SIZE	DIA. (INCHES)	CL. 1 & 2		CL. 3	
		WEIGHT (LBS)	WR <sup>2</sup> (LBS-FT <sup>2</sup> )	WEIGHT (LBS)	WR <sup>2</sup> (LBS-FT <sup>2</sup> )
122	12 1/4	13	1.8	16	2.2
135	13 1/2	15	2.5	19	3.1
150	15	17	3.4	22	4.5
165	16 1/2	27	6.6	33	8.1
182	18 1/4	34	10.2	41	12.3
200	20	38	13.7	46	16.6
222	22 1/4	54	24.1	67	29.9
245	24 1/2	68	36.7	87	47.0
270	27	80	52.5	102	66.9
300	30	116	94.0	147	119
330	33	143	140	183	179
365	36 1/2	168	201	218	261
402	40 1/4	233	340	291	424
445	44 1/2	271	483	342	610
490	49	434	938	539	1165
542	54 1/4	514	1361	644	1706
600	60	647	2096	807	2615
660	66	754	2956	949	3720

$$\left( \text{Equivalent } WR^2 \text{ At Motor Shaft} \right) = WR^2 \left( \frac{\text{Fan RPM}}{\text{Motor RPM}} \right)^2 \times 1.05$$

# SPECIAL CONSTRUCTION / MATERIALS

## SPARK RESISTANT CONSTRUCTION

### TYPE A

All parts of the fan in contact with the air or gas being handled shall be made of non-ferrous material.\*

### TYPE B

Fan shall have entirely non-ferrous wheel and a non-ferrous ring about the opening through which the shaft passes.

### TYPE C

Fan shall be so constructed that a shift of the wheel or shaft will not permit two ferrous parts of the fan to rub or strike.

## CORROSION RESISTANT AND SPECIAL ALLOYS

For applications involving handling of corrosive fumes, a wide variety of protective coatings and special alloy metals are available. Consult your American Fan representative or factory for full details.

\* American Fan Co. offers a Type "A" alternate Type "AA" spark-resistant construction which has a non-ferrous airstream except shaft, which is 316 S.S.

# TEMPERATURE AND ALTITUDE CORRECTIONS

## USING DENSITY CORRECTION FACTORS

The Capacity Tables in this bulletin are based on fans handling standard air at a density of .075 pounds per cubic foot equivalent to air at 70°F and 29.92" Hg barometric pressure. Therefore, when a fan handles air or other gases at other than standard density due to temperature, altitude or the type of gas, the published tables should be used in the following manner.

**EXAMPLE:** Determine RPM and BHP for a BCS-122, 2058 CFM, 7" SP, 300° F, 3000 feet elevation.

- 1) Determine the equivalent static pressure in the following manner: SP = required SP x density factor for conditions from the table below, ie equivalent SP = 7 x 1.61 = 11.27"

- 2) Using the required CFM and the equivalent SP, obtain the RPM and BHP from the capacity table, interpolating when necessary. From capacity table for size BCS-122, RPM = 4804, Equivalent BHP = 5.74
- 3) The RPM obtained is the correct value.
- 4) The BHP obtained must be corrected for the actual density as follows:

$$\text{BHP at conditions} = \frac{\text{Equivalent BHP}}{\text{Density Factor}} = \frac{5.74}{1.61}$$

Therefore, BHP at conditions = 3.57

## DERATING FACTORS FOR HI-TEMPERATURE

Tem. °F	Derating Factor		
	std. steel	304 stainless	316 stainless
70°	1.0	.91	.91
200°	.98	.84	.88
300°	.96	.79	.81
400°	.95	.75	.79
500°	.90	.72	.78
600°	.86	.70	.76
700°	.82	.68	.74
800°	N/A	.67	.72
900°	N/A	N/A	Contact
1000°	N/A	N/A	Factory

When elevated temperatures are encountered maximum RPMs shown on performance tables must be derated according to the above table. Standard steel construction is not suitable for use in temperatures over 700°F. Aluminum wheels are suitable for use up to 250°F only.

## DENSITY CORRECTION FACTORS

AIR TEMP DEG. F	ALTITUDE IN FEET ABOVE SEA LEVEL																			
	0	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	10000
-60°	.76	.77	.78	.80	.81	.83	.84	.86	.87	.89	.91	.92	.94	.96	.98	1.00	1.02	1.04	1.06	1.10
-40°	.79	.81	.82	.84	.85	.87	.88	.90	.92	.93	.95	.97	.99	1.01	1.03	1.05	1.07	1.09	1.11	1.15
-20°	.83	.85	.86	.88	.89	.91	.93	.94	.96	.98	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.21
0°	.87	.89	.91	.92	.94	.96	.98	.99	1.01	1.03	1.05	1.06	1.09	1.10	1.13	1.15	1.17	1.19	1.22	1.26
40°	.94	.96	.98	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.21	1.23	1.26	1.28	1.30	1.32	1.36
70°	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20	1.22	1.25	1.27	1.30	1.32	1.35	1.37	1.40	1.45
80°	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.21	1.23	1.26	1.28	1.30	1.33	1.36	1.38	1.41	1.43	1.48
100°	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.21	1.23	1.25	1.28	1.30	1.33	1.35	1.38	1.41	1.43	1.46	1.48	1.54
120°	1.09	1.12	1.14	1.16	1.18	1.20	1.23	1.25	1.28	1.30	1.32	1.35	1.38	1.40	1.43	1.46	1.48	1.51	1.53	1.58
140°	1.13	1.15	1.18	1.20	1.22	1.25	1.27	1.29	1.32	1.34	1.37	1.40	1.42	1.45	1.48	1.51	1.54	1.57	1.58	1.65
160°	1.17	1.19	1.22	1.24	1.26	1.29	1.31	1.34	1.36	1.39	1.42	1.44	1.47	1.50	1.53	1.56	1.59	1.62	1.64	1.70
180°	1.21	1.23	1.26	1.28	1.30	1.33	1.36	1.38	1.41	1.43	1.46	1.49	1.52	1.55	1.58	1.61	1.64	1.67	1.70	1.75
200°	1.25	1.27	1.29	1.32	1.34	1.37	1.40	1.42	1.45	1.48	1.51	1.54	1.57	1.60	1.63	1.66	1.69	1.72	1.75	1.81
250°	1.34	1.36	1.39	1.42	1.45	1.47	1.50	1.53	1.56	1.59	1.62	1.65	1.68	1.71	1.74	1.78	1.82	1.85	1.88	1.94
300°	1.43	1.46	1.49	1.52	1.55	1.58	1.61	1.64	1.67	1.70	1.74	1.77	1.80	1.84	1.87	1.91	1.94	1.98	2.00	2.08
350°	1.53	1.56	1.59	1.62	1.65	1.68	1.72	1.75	1.78	1.81	1.85	1.88	1.92	1.96	2.00	2.04	2.07	2.11	2.14	2.22
400°	1.62	1.65	1.69	1.72	1.75	1.79	1.82	1.85	1.89	1.93	1.96	2.00	2.04	2.08	2.12	2.16	2.20	2.25	2.27	2.35
450°	1.72	1.75	1.79	1.82	1.86	1.89	1.93	1.96	2.00	2.04	2.08	2.12	2.16	2.20	2.24	2.29	2.33	2.38	2.41	2.50
500°	1.81	1.85	1.88	1.92	1.96	1.99	2.03	2.07	2.11	2.15	2.19	2.23	2.28	2.32	2.36	2.41	2.46	2.51	2.54	2.62
550°	1.91	1.94	1.98	2.02	2.06	2.10	2.14	2.18	2.22	2.26	2.30	2.35	2.40	2.44	2.49	2.54	2.58	2.63	2.68	2.77
600°	2.00	2.04	2.08	2.12	2.16	2.20	2.24	2.29	2.33	2.38	2.42	2.47	2.50	2.56	2.61	2.66	2.71	2.77	2.80	2.90
650°	2.10	2.14	2.18	2.22	2.26	2.31	2.35	2.40	2.44	2.49	2.54	2.58	2.63	2.68	2.74	2.79	2.84	2.90	2.94	3.04
700°	2.19	2.23	2.27	2.32	2.36	2.41	2.46	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.86	2.91	2.97	3.03	3.06	3.18
750°	2.28	2.33	2.37	2.42	2.47	2.51	2.56	2.61	2.66	2.71	2.76	2.81	2.87	2.92	2.98	3.04	3.10	3.16	3.19	3.31
800°	2.38	2.43	2.48	2.52	2.57	2.62	2.66	2.72	2.76	2.81	2.86	2.90	2.98	3.02	3.10	3.14	3.21	3.26	3.33	3.45
850°	2.47	2.52	2.57	2.62	2.67	2.72	2.76	2.82	2.87	2.92	2.97	3.02	3.09	3.14	3.21	3.26	3.33	3.38	3.46	3.58
900°	2.57	2.62	2.67	2.72	2.76	2.83	2.88	2.93	2.98	3.03	3.08	3.14	3.21	3.26	3.34	3.39	3.47	3.52	3.60	3.73
950°	2.66	2.72	2.77	2.82	2.87	2.92	2.98	3.03	3.08	3.14	3.19	3.24	3.32	3.38	3.46	3.51	3.58	3.64	3.72	3.86
1000°	2.76	2.82	2.87	2.92	2.98	3.04	3.09	3.14	3.20	3.26	3.31	3.37	3.45	3.50	3.59	3.64	3.72	3.78	3.86	4.00

## HIGH TEMPERATURE CONSTRUCTION

- 250°F - 400°F — Heat Slinger, high-temperature paint.
- 401°F - 700°F — Heat Slinger, high-temperature shaft seal, high-temperature paint, Arr't 1 or 8 only.
- 701°F - 900°F — Heat Slinger, high-temperature shaft seal, heat shield, special wheel construction including fins, Arr't 1 or 8 only, fixed and floating bearings, high-temperature paint.
- 901°F - 1000° — Heat Slinger, high-temperature shaft seal, heat shield, 316 S.S. wheel with fins, 316 S.S. shaft, fixed and floating oil lubricated bearings, Arr't 1 or 8 only, high-temperature paint on non S.S. parts.

## CONVERSION FACTORS

- Volume — cubic meters/sec. x 2119 = cubic feet/min. (CFM)
- Pressure — Pascals (N/m<sup>2</sup>) x 0.004 = inches water
- Power — kilowatts (Kw) x 1.341 = horsepower
- Length — centimeters (cm) x 0.3937 = inches
- Temperature — (°C x 1.8) + 32 = °F

# SELECTING FANS

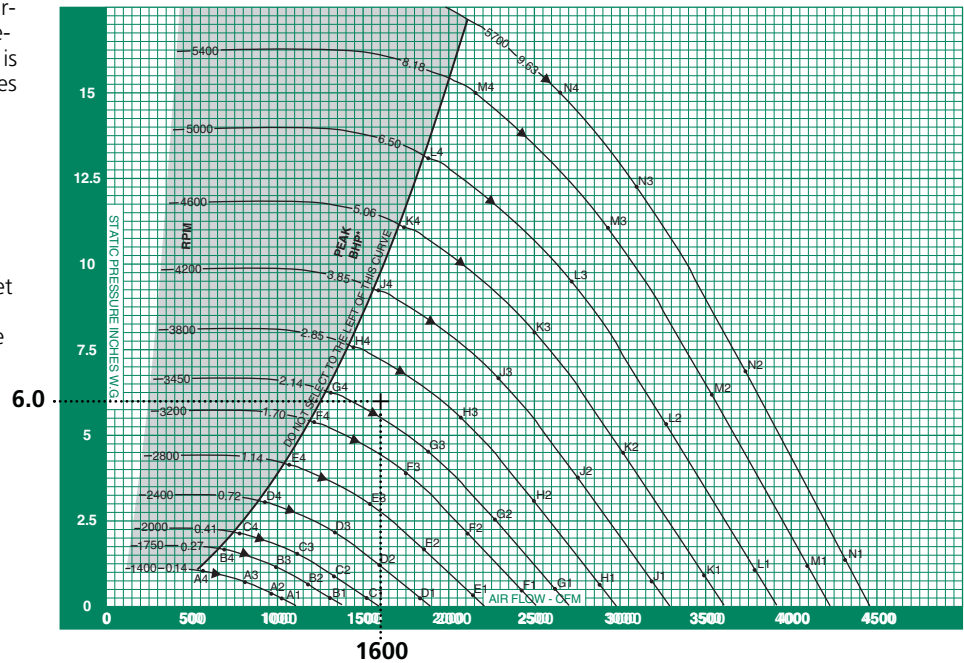
# BCS-122 SINGLE WIDTH

The following 56 pages contain air and sound performance data on backward curve (BCS) blowers, 12 1/4" through 66" diameter, and air-foil (BCA) blowers, 18 1/4" through 66" diameter. An IBM compatible PC computer program is also available from your local American Fan sales representative or the factory to aid in selecting any American Fan Company product.

Performance shown is for BCS and BCA blowers with outlet duct and with or without inlet duct.

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

## CONSTANT SPEED PERFORMANCE CURVES



CFM	OV	6.00" SP RPM	BHP
1564	1900	3546	2.31
1646	2000	<u>3599</u>	<u>2.43</u>
1729	2100	3653	2.55
1811	2200	3710	2.68
1894	2300	3776	2.81

### EXAMPLE:

- 1) A fan is required to deliver 1600 CFM at 6.0" SP at .075 lbs./cu. ft. density.
- 2) Referring to the BCS capacity tables on pages 8 and 10, we see that a BCS-122 selection is closer to the underlined peak efficiency rating and is therefore more efficient than a BCS-135.
- 3) Interpolating on the BCS-122 table the required speed is 3569 RPM, the brakehorsepower is 2.36, and the Class is 1.
- 4) To determine the outlet velocity, divide the CFM by the outlet area.  $\frac{1600 \text{ CFM}}{.824 \text{ sq. ft.}} = 1942 \text{ ft./min. outlet velocity}$
- 5) Referring to the constant speed curves on page 9, interpolate between the 3450 and 3800 RPM curve for 3569 RPM. We can see we are near peak efficiency at the selection point. Knowing our BHP is 2.36 we can compare the maximum (or peak) BHP using the formula as shown at the top of page 8.

$$\text{BCS-122 Max BHP} = .052 \times \left( \frac{3569 \text{ RPM}}{1000} \right)^3 = 2.36 \text{ Max. BHP}$$

In this example, the selection BHP and the peak BHP are the same, 2.36, so a 3 HP motor is selected.

- 6) The fan static efficiency (%) can now be calculated using the formula on page 9.

$$\% \text{ Static Efficiency} = \frac{1600 \text{ CFM} \times 6.0" \text{ SP} \times .0157}{2.36 \text{ BHP}} = 63.9\%$$

- 7) To determine sound levels, locate selection point on constant speed performance curves and determine which sound point the selection point is nearest. It may be necessary to interpolate if selection point is approximately equidistant between sound points. In the example, we must average the sound levels of sound points G3, G4, H3 and H4.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY (HZ)							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
3450	4.50	G3	89	91	90	88	82	78	77	72
	6.50	G4	89	97	93	92	85	80	78	74
3800	5.46	H3	90	93	92	91	85	80	79	75
	7.89	H4	91	99	96	95	88	83	81	77

Average of sound points- 90 95 93 92 85 80 79 75

- 8) Results: BCS-122, arrangement 9, Class 1

1600 CFM  
1942 ft. / min. OV  
6" SP  
3569 RPM  
2.36 BHP  
63.9% Static Efficiency

FAN RPM	FAN SP	Sound Power Levels Band / Frequency (HZ)							
		1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
3569	6.0	90	95	93	92	85	80	79	75

# AERODYNAMIC LOSSES OF ARR'T 3 SWSI FANS

Performances shown in this catalog are based on ARR'T 1 test fans with unobstructed inlets. ARR'T 3 SWSI fans have a bearing and supports in the inlet which cause a slight reduction in fan performance. In order to compensate for this reduction, the following formula must be applied. The resultant static pressure loss should be added to your system static pressure when making a fan selection.

SL = CF x SF x (OV/4005)<sup>2</sup> where:

- SL = Static Pressure Loss
- CF = Class Factor
- OV = Outlet Velocity (from capacity tables)
- SF = Size Factor

CLASS	FACTOR
1 & 2	0.68
3	0.90

FAN SIZE	SIZE FACTOR
122	1.00
135	0.97
150	0.93
165	0.91
182	0.88
200	0.85
222	0.82
245	0.79
270	0.77

FAN SIZE	SIZE FACTOR
300	0.74
330	0.72
365	0.69
402	0.67
445	0.65
490	0.63
542	0.61
600	0.59
660	0.57

**EXAMPLE:** Select a BCS-200 ARR'T 3 SWSI fan for 6370 CFM at 6" SP.

From capacity table, BCS-200 OV at 6370 CFM is 2900 ft./min. Fan is class 2. Using static pressure loss formula:

$$\text{SL} = 0.68 \times 0.85 \times (2900/4005)^2 = 0.30"$$

$$6" \text{ SP} + 0.3" \text{ SL} = 6.3" \text{ SP}$$

Therefore, fan should be selected for 6370 CFM at 6.3" SP.

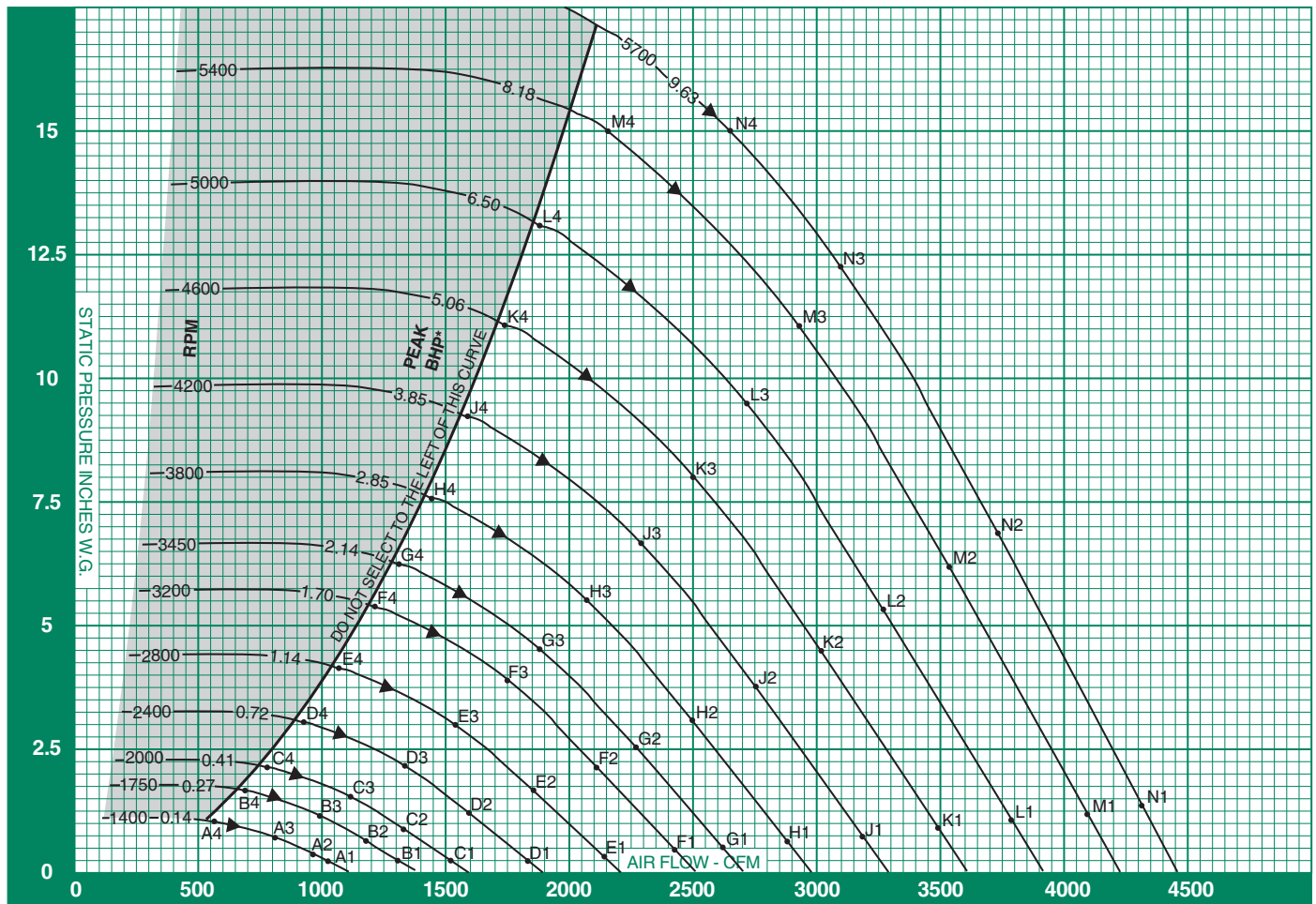
Note: The AMCA Certified Ratings Seal does not apply when factors are used.





# CONSTANT SPEED PERFORMANCE CURVES

# BCS-122 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

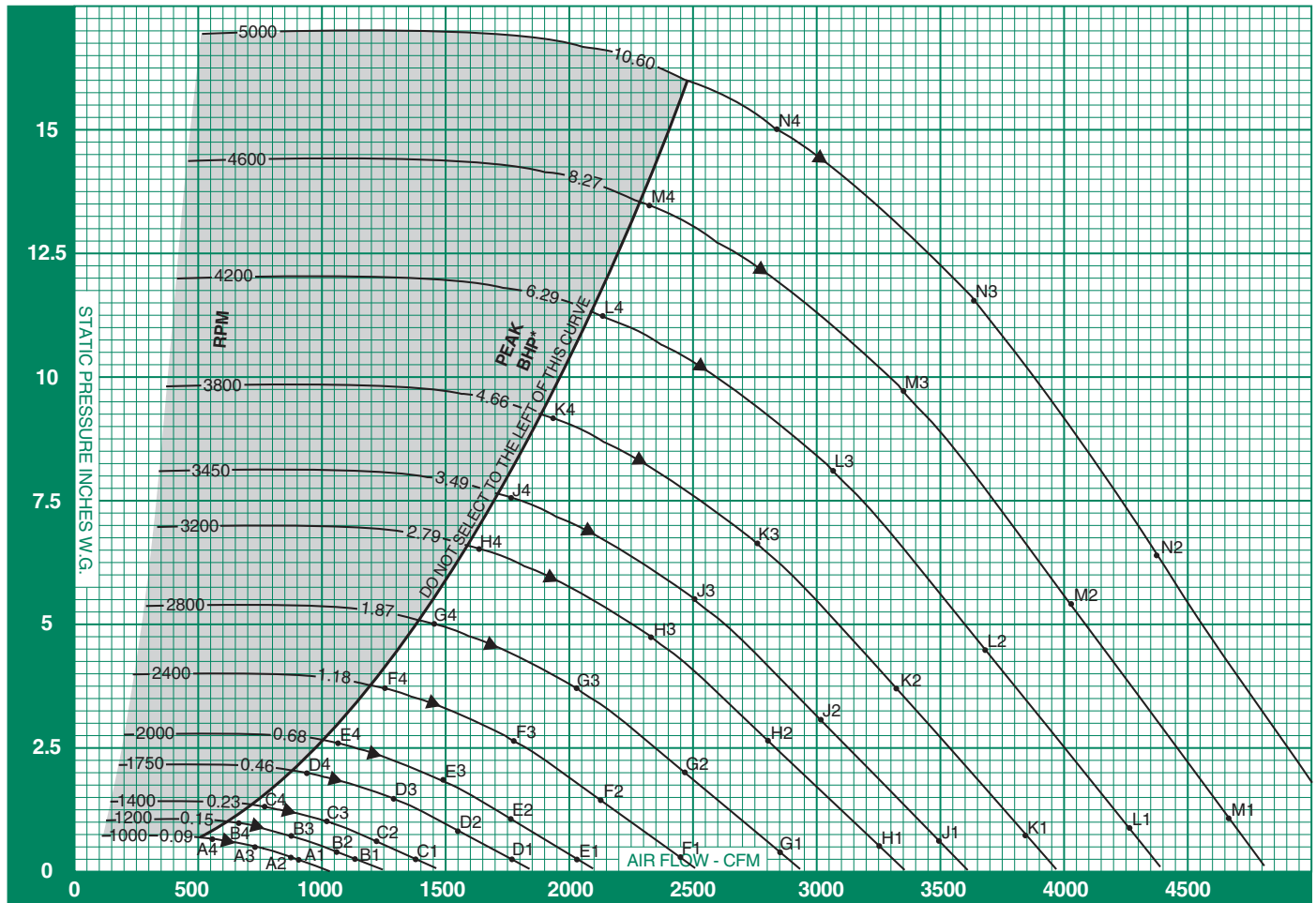
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
1400	0.25	A1	65	67	69	62	61	61	57	52
	0.41	A2	65	66	67	61	59	58	53	47
	0.74	A3	65	65	65	60	58	56	51	47
	1.07	A4	70	69	68	63	60	57	53	48
1750	0.25	B1	71	71	77	69	65	68	64	60
	0.64	B2	71	71	75	67	64	65	59	54
	1.16	B3	71	71	71	66	63	62	58	53
	1.67	B4	77	75	75	70	65	64	59	55
2000	0.25	C1	75	75	80	74	69	70	70	65
	0.84	C2	75	75	78	72	67	67	63	58
	1.51	C3	74	75	75	71	67	65	61	57
	2.18	C4	80	79	79	74	69	67	63	59
2400	0.25	D1	81	80	83	81	74	74	74	71
	1.21	D2	80	80	82	79	72	71	69	63
	2.18	D3	79	80	80	77	72	70	67	62
	3.15	D4	83	85	84	81	74	71	68	64
2800	0.33	E1	86	85	86	88	78	77	78	75
	1.65	E2	84	85	85	85	77	74	73	68
	2.96	E3	83	85	84	82	76	73	71	66
	4.28	E4	86	90	88	86	79	75	73	68
3200	0.43	F1	90	88	88	93	82	79	82	78
	2.15	F2	88	89	88	90	80	77	77	72
	3.87	F3	87	89	87	86	80	76	75	70
	5.59	F4	88	95	91	90	83	78	76	72
3450	0.50	G1	92	91	89	95	84	80	84	80
	2.50	G2	90	91	90	92	82	79	80	74
3450	4.50	G3	89	91	90	88	82	78	77	72
	6.50	G4	89	97	93	92	85	80	78	74
3800	0.61	H1	94	94	92	97	88	83	85	83
	3.03	H2	92	94	93	94	86	81	81	77
	5.46	H3	90	93	92	91	85	80	79	75
	7.89	H4	91	99	96	95	88	83	81	77
4200	0.74	J1	96	97	95	99	92	85	87	86
	3.71	J2	93	96	95	96	90	84	83	80
	6.67	J3	92	96	95	94	88	83	81	78
	9.63	J4	93	100	100	98	92	86	83	79
4600	0.89	K1	97	100	98	100	95	88	89	88
	4.44	K2	95	99	98	98	93	86	85	82
	8.00	K3	94	98	98	96	91	86	84	80
	11.56	K4	94	102	103	100	95	88	85	82
5000	1.05	L1	99	102	100	101	99	90	90	90
	5.25	L2	96	101	100	100	96	89	87	85
	9.45	L3	95	100	100	98	94	88	85	83
	13.65	L4	96	104	105	102	98	91	87	84
5400	1.22	M1	100	105	102	103	102	92	91	92
	6.12	M2	98	103	103	102	99	91	89	87
	11.02	M3	96	102	102	100	96	90	87	85
	15.00	M4	97	104	106	103	99	92	88	86
5700	1.36	N1	101	106	104	104	104	94	92	94
	6.82	N2	99	105	104	103	101	92	90	89
	12.28	N3	97	104	104	102	98	92	88	87
	15.00	N4	98	105	107	104	100	93	89	88



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-135 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

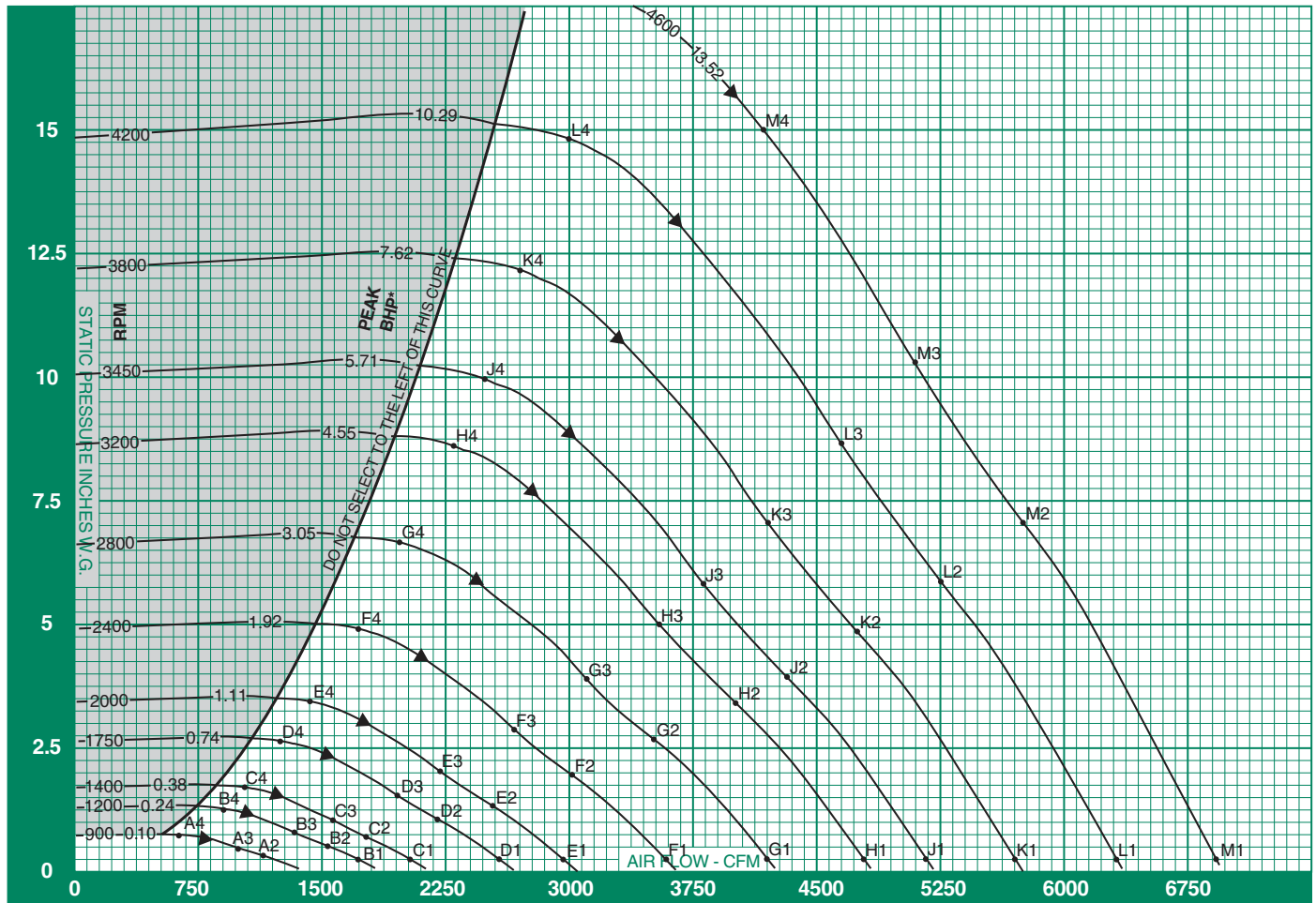
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY																		
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000											
1000	0.25	A1	59	62	58	55	55	51	46	40	2800	0.40	G1	89	88	89	91	81	80	81	78
	0.26	A2	59	62	58	55	55	51	46	40		2.00	G2	88	89	88	88	80	77	76	71
	0.46	A3	59	60	57	54	53	49	45	40											
	0.66	A4	63	64	60	56	55	51	46	42											
1200	0.25	B1	64	67	66	60	60	59	54	49	3200	0.52	H1	93	92	91	96	85	82	85	81
	0.37	B2	64	66	65	60	59	57	51	45		2.61	H2	92	92	91	93	83	80	80	75
	0.66	B3	64	65	63	59	57	55	50	45		4.70	H3	90	92	91	90	83	79	78	73
	0.96	B4	69	68	66	62	59	56	52	47		6.79	H4	92	98	95	94	86	81	79	75
1400	0.25	C1	68	70	73	65	64	64	60	56	3450	0.61	J1	96	94	93	98	87	83	87	83
	0.50	C2	69	70	71	64	62	61	56	50		3.04	J2	94	95	93	95	85	81	82	77
	0.90	C3	68	69	68	63	61	59	54	50		5.47	J3	92	94	93	92	85	81	80	75
	1.30	C4	74	72	72	66	63	60	56	51		7.89	J4	93	101	97	96	88	83	81	77
1750	0.25	D1	75	74	80	72	68	71	68	64	3800	0.74	K1	97	97	95	100	90	86	88	86
	0.78	D2	75	75	78	71	67	68	62	57		3.68	K2	95	97	96	97	89	84	84	80
	1.41	D3	75	75	75	70	66	65	61	56		6.63	K3	94	97	96	94	88	83	82	78
	2.03	D4	81	78	79	73	68	67	62	58		9.58	K4	95	102	100	98	91	86	84	80
2000	0.25	E1	79	78	84	77	72	74	72	69	4200	0.90	L1	99	100	98	102	95	88	90	89
	1.02	E2	79	79	81	75	70	70	66	61		4.50	L2	97	100	99	99	93	87	86	83
	1.84	E3	78	78	78	74	70	68	64	60		8.10	L3	96	99	99	97	91	86	84	81
	2.65	E4	83	83	82	77	72	70	66	61		11.70	L4	96	104	103	101	95	89	86	82
2400	0.29	F1	85	84	87	84	77	77	77	74	4600	1.08	M1	101	103	101	103	98	91	92	91
	1.47	F2	84	84	85	82	75	74	72	66		5.40	M2	99	102	101	101	96	89	88	85
	2.64	F3	83	84	83	80	75	72	70	65		9.72	M3	97	102	101	99	94	89	87	83
	3.82	F4	87	89	87	84	77	74	71	67		14.03	M4	98	106	106	103	98	91	88	85
2800	0.40	G1	89	88	89	91	81	80	81	78	5000	1.28	N1	102	106	103	105	102	93	93	93
	2.00	G2	88	89	88	88	80	77	76	71		6.38	N2	100	105	104	103	99	92	90	88
												11.48	N3	99	104	104	101	97	91	88	86
												15.00	N4	99	106	107	104	100	93	89	87



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-150 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

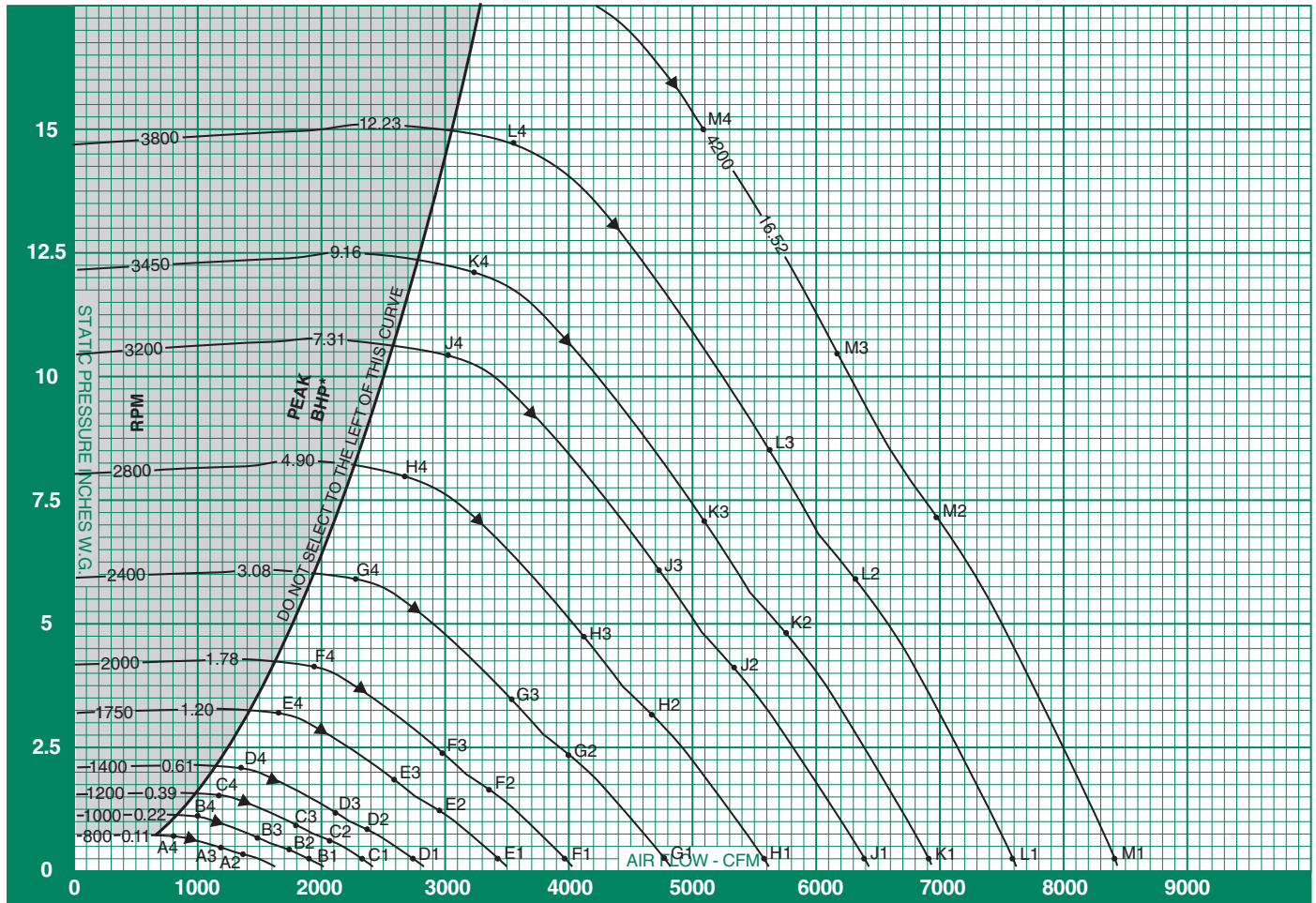
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
900	0.27	A2	61	66	65	64	62	56	49	42	2800	0.25	G1	86	92	93	98	91	91	87	83	
	0.40	A3	60	64	64	64	61	55	48	42		2.60	G2	84	92	92	97	89	90	85	78	
	0.68	A4	63	63	62	61	59	54	48	42		3.83	G3	83	91	92	95	88	89	84	77	
1200	0.25	B1	68	71	75	71	71	66	61	56	3200	0.25	H1	88	94	96	100	96	94	91	87	
	0.48	B2	68	71	75	70	70	65	58	52		3.40	H2	87	94	96	99	94	92	89	82	
	0.70	B3	67	70	73	70	70	64	58	51		5.00	H3	85	93	95	97	93	92	88	82	
1400	1.21	B4	74	69	72	67	67	63	57	51	3450	8.60	H4	93	101	97	96	90	89	86	81	
	0.25	C1	72	74	81	75	75	71	67	62		4200	0.25	J1	90	96	98	101	98	96	93	89
	0.65	C2	72	74	80	74	74	70	63	56			3.95	J2	88	95	98	101	96	94	91	85
0.96	C3	71	73	78	73	74	69	62	56	5.81	J3		87	94	97	99	95	93	90	84		
1750	1.65	C4	79	73	77	70	71	67	62	56	3800	9.99	J4	95	103	100	97	93	90	88	83	
	0.25	D1	76	80	85	83	81	78	73	69		4600	0.25	K1	91	98	101	103	101	98	96	91
	1.02	D2	76	80	84	81	79	76	70	63			4.79	K2	90	97	100	102	100	96	94	88
1.50	D3	75	79	82	80	78	76	69	63	7.05	K3		88	96	99	101	98	95	93	87		
2000	2.57	D4	83	82	81	78	76	73	68	62	4800	12.12	K4	96	104	104	100	96	92	91	86	
	0.25	E1	79	83	87	87	84	82	77	73		4400	0.25	L1	93	100	103	105	104	100	98	94
	1.33	E2	78	83	86	86	82	80	74	68			5.86	L2	91	99	103	104	103	98	97	91
1.95	E3	77	82	85	85	81	80	74	67	8.61	L3		90	98	102	103	101	97	96	90		
2400	3.36	E4	85	87	84	83	78	77	72	66	4000	14.81	L4	98	106	107	102	100	94	94	89	
	0.25	F1	83	88	90	93	88	87	83	78		3600	0.25	M1	95	102	105	106	107	102	101	97
	1.91	F2	82	88	89	92	85	85	80	73			7.02	M2	93	101	105	106	106	100	99	94
2.81	F3	80	87	88	90	85	85	79	73	10.33	M3		92	99	104	104	104	99	99	93		
4.84	F4	88	94	88	89	82	82	78	72	15.00	M4	97	104	108	104	104	97	97	93			



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-165 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
800	0.26	A2	61	68	65	65	61	55	48	42	2400	0.25	G1	87	91	93	96	91	90	86	81
	0.38	A3	60	65	64	64	61	54	48	41		2.31	G2	85	91	93	95	88	88	83	76
	0.65	A4	62	64	61	61	59	53	48	42		3.40	G3	84	90	92	93	88	88	82	75
1000	0.25	B1	67	71	73	70	69	64	58	55	2800	0.25	H1	90	95	96	101	94	94	90	86
	0.40	B2	67	71	72	69	68	62	55	49		3.15	H2	88	95	96	100	92	92	88	81
	0.59	B3	66	70	71	69	67	62	55	48		4.63	H3	87	94	95	98	91	92	87	80
1200	1.02	B4	71	69	69	66	65	60	54	48	3200	7.96	H4	95	103	95	97	89	89	85	79
	0.25	C1	72	75	80	74	74	70	64	60		0.25	J1	92	98	100	103	99	97	94	90
	0.58	C2	72	75	79	73	73	68	61	54		4.11	J2	90	97	99	102	97	95	92	85
1400	0.85	C3	71	73	77	73	73	67	60	54	3450	6.05	J3	89	96	98	100	96	95	91	85
	1.46	C4	78	73	75	70	70	66	60	54		10.40	J4	97	105	100	99	93	92	89	84
	0.25	D1	75	78	84	78	78	74	69	65		0.25	K1	93	99	101	104	101	99	96	92
1750	0.79	D2	75	77	83	77	77	73	66	59	3800	4.78	K2	92	99	101	104	99	97	94	88
	1.16	D3	74	77	81	76	77	72	65	58		7.03	K3	90	98	100	102	98	96	93	87
	1.99	D4	83	77	80	73	74	70	64	59		12.09	K4	98	106	103	100	96	93	91	86
2000	0.25	E1	80	84	88	86	84	81	76	72	4200	0.25	L1	95	101	104	106	104	101	98	94
	1.23	E2	79	83	87	84	82	79	73	66		5.80	L2	93	101	104	105	103	99	97	91
	1.81	E3	78	82	85	83	81	79	72	65		8.53	L3	92	100	103	104	101	98	96	90
2000	3.11	E4	87	85	84	81	78	76	71	65	4200	14.67	L4	100	108	107	103	99	95	94	89
	0.25	F1	83	87	90	91	87	85	80	76		0.25	M1	97	103	106	108	107	103	101	97
	1.61	F2	82	87	90	89	85	83	77	71		7.09	M2	95	102	106	107	106	101	100	94
2000	2.36	F3	81	86	88	88	84	82	77	70	4200	10.42	M3	94	101	105	106	104	100	99	93
	4.06	F4	89	91	87	86	81	80	75	69		15.00	M4	99	106	109	106	104	98	97	92

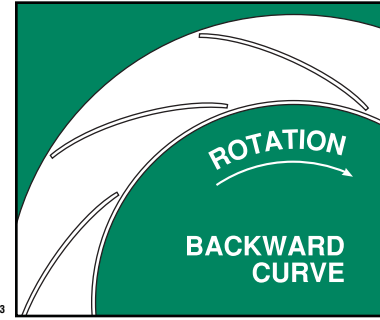
# BCS-182

## SINGLE WIDTH

WHEEL DIAMETER: 18.25"  
 WHEEL CIRCUMFERENCE: 4.78'  
 OUTLET AREA: 1.829 SQ. FT.  
 OUTLET SIZE: 14 1/2" x 18 3/16"  
 INLET DIAMETER: 19 1/2" O.D.



	CLASS 1	CLASS 2	CLASS 3
MAX SPEEDS	CLASS 1	CLASS 2	CLASS 3
UP TO 250°F	2339	3052	3808
251°F TO 400°F*	2222	2899	3618
401°F TO 700°F*	1918	2503	3123
ABOVE 700°F	CONTACT FACTORY		



\*SPECIAL HI-TEMP CONSTRUCTION REQUIRED  
 TIP SPEED (FPM) = 4.78 x RPM      MAX BHP = 0.426 x (RPM/1000)<sup>3</sup>

CFM	OV	1.00" SP RPM BHP	1.50" SP RPM BHP	2.00" SP RPM BHP	2.50" SP RPM BHP	3.00" SP RPM BHP	3.50" SP RPM BHP			
1280	700	907 0.29								
1463	800	925 0.32	1101 0.50							
1646	900	941 0.35	1118 0.55	1267 0.76						
1829	1000	<u>966 0.38</u>	1137 0.60	1284 0.82	1415 1.05					
2012	1100	1002 0.43	1152 0.64	1303 0.88	1433 1.13	1551 1.39				
2195	1200	1043 0.48	<u>1176 0.69</u>	1320 0.94	1451 1.21	1569 1.48	1678 1.76			
2377	1300	1086 0.54	1210 0.75	1335 1.00	1470 1.29	1587 1.58	1695 1.87			
2560	1400	1131 0.61	1248 0.83	<u>1362 1.07</u>	1485 1.36	1606 1.67	1713 1.98			
2743	1500	1181 0.68	1290 0.91	1397 1.16	1504 1.44	1621 1.76	1732 2.09			
2926	1600	1233 0.76	1334 1.00	1435 1.26	<u>1533 1.53</u>	1636 1.85	1748 2.20			
3109	1700	1290 0.86	1379 1.10	1477 1.36	1570 1.65	<u>1664 1.96</u>	1763 2.30			
3292	1800	1348 0.96	1428 1.21	1520 1.48	1609 1.77	<u>1697 2.08</u>	1787 2.42			
3475	1900	1406 1.07	1479 1.33	1564 1.61	1651 1.90	1734 2.22	<u>1816 2.55</u>			
3658	2000	1465 1.19	1532 1.46	1608 1.74	1693 2.05	1774 2.37	1853 2.71			
3841	2100	1525 1.32	1590 1.60	1660 1.89	1737 2.21	1816 2.54	1891 2.88			

CFM	OV	4.00" SP RPM BHP	4.50" SP RPM BHP	5.00" SP RPM BHP	5.50" SP RPM BHP	6.00" SP RPM BHP	6.50" SP RPM BHP	7.00" SP RPM BHP	7.50" SP RPM BHP	8.00" SP RPM BHP
2743	1500	1832 2.43	1926 2.77	2017 3.11	2102 3.46					
2926	1600	1851 2.55	1945 2.91	2034 3.27	2120 3.63	2202 4.01	2280 4.38			
3109	1700	1867 2.67	1964 3.05	2053 3.43	2137 3.81	2219 4.20	2297 4.59	2373 4.99	2446 5.39	
3292	1800	1882 2.79	1980 3.19	2071 3.59	2156 3.98	2237 4.39	2315 4.80	2390 5.21	2463 5.62	2534 6.05
3475	1900	1903 2.92	1995 3.31	2088 3.74	2175 4.16	2256 4.58	2333 5.00	2408 5.43	2481 5.86	2551 6.30
3658	2000	<u>1931 3.07</u>	2015 3.46	2103 3.88	2191 4.32	2274 4.77	2352 5.21	2427 5.65	2499 6.10	2569 6.56
3841	2100	1967 3.24	<u>2043 3.62</u>	2121 4.03	2206 4.48	2290 4.94	2370 5.42	2445 5.88	2517 6.34	2587 6.81
4024	2200	2005 3.43	2076 3.81	<u>2149 4.22</u>	2224 4.65	2305 5.11	2385 5.60	2463 6.10	2536 6.58	2606 7.06
4207	2300	2044 3.63	2114 4.02	2181 4.42	<u>2252 4.85</u>	2324 5.30	2400 5.78	2478 6.29	2553 6.81	2625 7.32
4390	2400	2086 3.85	2152 4.24	2219 4.65	2283 5.07	<u>2352 5.52</u>	2420 5.99	2493 6.49	2568 7.02	2640 7.55
4572	2500	2129 4.08	2194 4.48	2257 4.89	2321 5.32	2382 5.76	<u>2448 6.23</u>	2514 6.72	2583 7.23	2655 7.78
4755	2600	2173 4.32	2236 4.73	2298 5.15	2358 5.59	2420 6.03	2479 6.49	2542 6.98	2606 7.49	2670 8.01
4938	2700	2217 4.58	2279 5.00	2340 5.42	2399 5.86	2457 6.32	2516 6.79	2573 7.26	<u>2634 7.76</u>	2695 8.29
5121	2800	2262 4.85	2323 5.28	2382 5.71	2441 6.16	2497 6.62	2554 7.09	2610 7.58	2665 8.07	<u>2723 8.59</u>
5304	2900	2311 5.14	2368 5.58	2426 6.02	2483 6.47	2539 6.94	2593 7.42	2648 7.91	2703 8.41	2756 8.92
5487	3000	2362 5.45	2413 5.89	2471 6.34	2526 6.80	2581 7.27	2635 7.76	2687 8.25	2740 8.76	2793 9.28
5670	3100	2414 5.77	2464 6.22	2515 6.68	2571 7.15	2624 7.63	2677 8.12	2729 8.62	2779 9.13	2831 9.66
5853	3200	2467 6.11	2515 6.57	2562 7.03	2615 7.51	2668 8.00	2720 8.50	2771 9.00	2821 9.53	2869 10.05
6036	3300	2522 6.46	2567 6.93	2613 7.40	2660 7.89	2712 8.39	2764 8.90	2813 9.41	2863 9.94	2911 10.47
6219	3400	2579 6.84	2619 7.31	2665 7.80	2710 8.29	2757 8.79	2808 9.31	2857 9.83	2905 10.36	2953 10.91

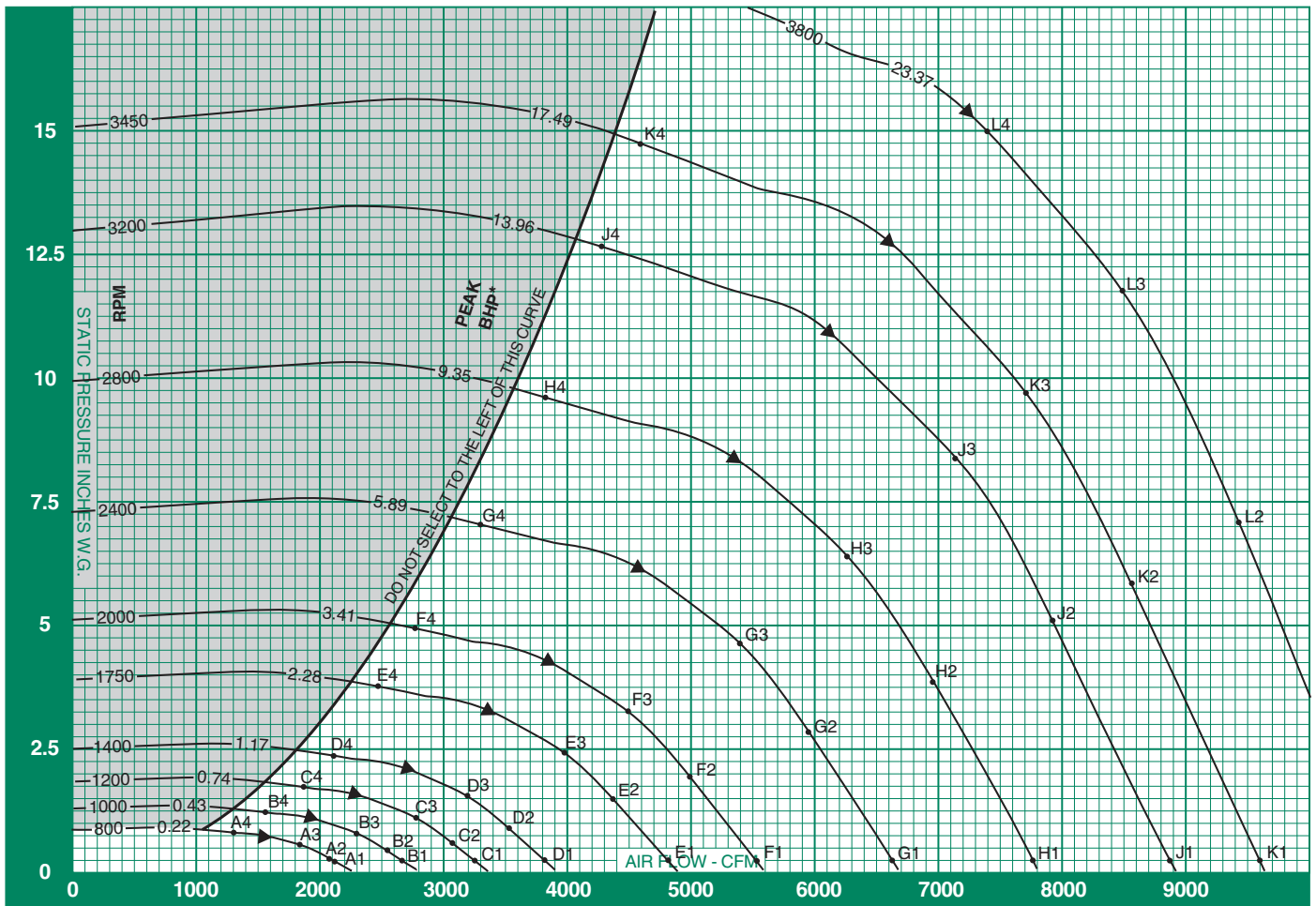
CFM	OV	9.00" SP RPM BHP	10.00" SP RPM BHP	11.00" SP RPM BHP	12.00" SP RPM BHP	13.00" SP RPM BHP	14.00" SP RPM BHP	15.00" SP RPM BHP	16.00" SP RPM BHP	17.00" SP RPM BHP
4024	2200	2739 8.05	2866 9.05	2987 10.06	3103 11.09					
4207	2300	2757 8.33	2883 9.37	3004 10.41	3120 11.47	3231 12.55				
4390	2400	2776 8.62	2902 9.68	3022 10.77	3137 11.86	3248 12.96	3355 14.08	3459 15.22		
4572	2500	2794 8.90	2921 10.00	3041 11.11	3155 12.24	3266 13.38	3373 14.52	3476 15.69		
4755	2600	2809 9.15	2939 10.33	3059 11.46	3174 12.62	3283 13.80	3390 14.98	3493 16.17	3576 16.88	3690 18.61
4938	2700	2823 9.41	2954 10.60	3078 11.82	3192 13.00	3302 14.20	3408 15.43	3510 16.65	3610 17.89	3707 19.14
5121	2800	2841 9.68	2969 10.89	3094 12.14	3211 13.39	3321 14.61	3426 15.86	3528 17.13	3628 18.40	3724 19.68
5304	2900	2869 10.01	2984 11.17	3109 12.44	3228 13.75	3340 15.03	3445 16.31	3547 17.60	3646 18.91	3742 20.23
5487	3000	<u>2897 10.35</u>	3008 11.52	3124 12.76	3243 14.08	3357 15.43	3464 16.76	3566 18.08	3664 19.41	3760 20.77
5670	3100	2932 10.74	3036 11.89	3142 13.10	3258 14.42	3372 15.80	3482 17.20	3584 18.56	3683 19.92	3778 21.30
5853	3200	2969 11.15	<u>3065 12.28</u>	3170 13.50	3273 14.77	3387 16.16	3496 17.59	3602 19.03	3702 20.44	3797 21.84
6036	3300	3007 11.58	3103 12.72	<u>3198 13.92</u>	3299 15.20	3402 16.54	3511 17.98	3617 19.45	3720 20.95	
6219	3400	3046 12.02	3140 13.19	3231 14.38	3327 15.65	3424 16.97	3526 18.38	3632 19.87	3735 21.39	
6402	3500	3088 12.50	3178 13.66	3269 14.88	<u>3356 16.11</u>	3452 17.45	3546 18.82	3647 20.30	3750 21.84	
6585	3600	3130 12.99	3217 14.17	3306 15.39	3393 16.64	<u>3480 17.94</u>	3574 19.34	3664 20.75	3765 22.30	

Performance shown is for installation type B & D - Free or ducted inlet, Ducted outlet. Underlined ratings indicate maximum static efficiency. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. NOTE: Ratings shown apply also to model QB5C.



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-182 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

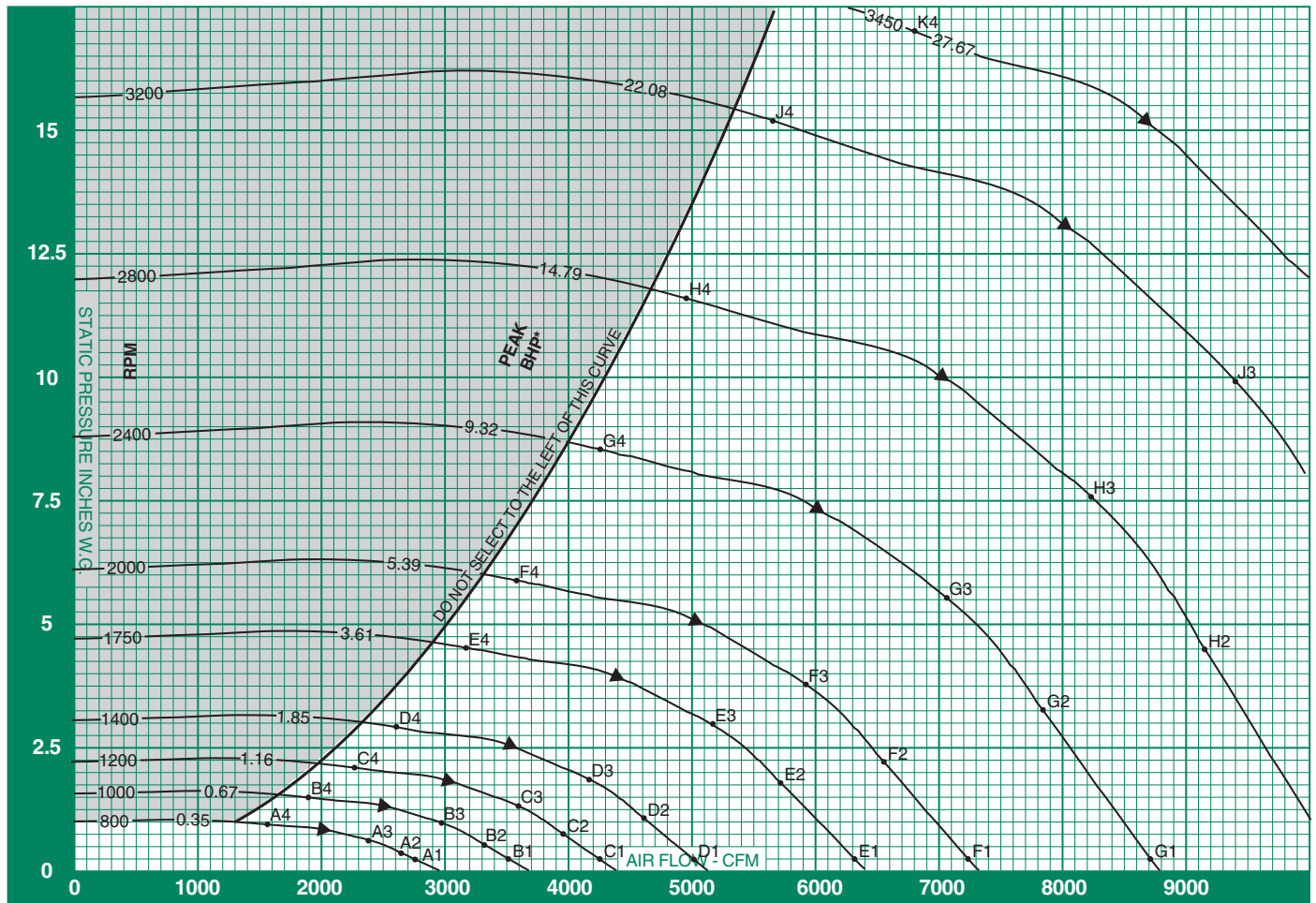
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
800	0.25	A1	70	75	72	68	68	64	58	52	2000	3.27	F3	97	96	98	95	89	88	85	80	
	0.31	A2	70	75	72	68	68	64	58	52		4.96	F4	97	96	99	95	89	88	85	80	
	0.52	A3	70	75	72	68	68	64	58	52		2400	0.25	G1	99	102	102	101	95	92	90	85
	0.79	A4	70	76	72	68	67	64	58	52			2.82	G2	100	102	102	101	95	92	90	85
1000	0.25	B1	77	80	79	74	73	71	65	58	4.70	G3	100	102	102	101	95	92	90	85		
	0.49	B2	76	80	79	74	73	70	65	59	7.15	G4	100	102	102	101	95	92	90	85		
	0.82	B3	76	80	79	74	73	70	65	58	2800	0.25	H1	102	107	106	105	100	96	95	90	
	1.24	B4	76	81	79	74	73	70	64	59		3.84	H2	103	107	105	106	100	96	94	90	
1200	0.25	C1	83	84	84	80	77	75	70	64	6.40	H3	103	107	105	106	100	96	94	90		
	0.71	C2	82	84	84	80	77	75	70	64	9.73	H4	102	107	105	106	99	95	94	90		
	1.18	C3	82	84	84	80	77	75	70	64	3200	0.25	J1	104	111	109	109	104	99	98	94	
	1.79	C4	82	84	85	80	77	75	70	64		5.02	J2	105	111	108	110	104	99	98	94	
1400	0.25	D1	87	88	89	84	81	79	75	69	8.36	J3	105	111	108	110	104	99	98	94		
	0.96	D2	87	87	89	84	81	79	75	69	12.71	J4	105	111	108	110	103	98	98	94		
	1.60	D3	87	87	89	84	80	79	75	69	3450	0.25	K1	106	113	111	111	106	100	100	97	
	2.43	D4	87	87	90	84	80	79	75	69		5.83	K2	106	114	109	112	106	100	100	96	
1750	0.25	E1	94	93	95	91	86	85	82	76	9.72	K3	106	114	109	112	106	100	100	96		
	1.50	E2	94	92	96	91	86	85	82	76	14.77	K4	106	113	109	112	106	100	100	96		
	2.50	E3	94	92	96	91	85	85	82	76	3800	0.25	L1	107	115	114	113	109	103	102	99	
	3.80	E4	94	91	96	91	85	85	81	76		7.07	L2	108	115	112	114	109	103	102	99	
2000	0.25	F1	96	97	98	95	90	88	86	80	11.79	L3	108	115	112	114	109	103	102	99		
	1.96	F2	97	96	98	95	89	88	85	80	15.00	L4	108	115	112	114	109	103	102	99		



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-200 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

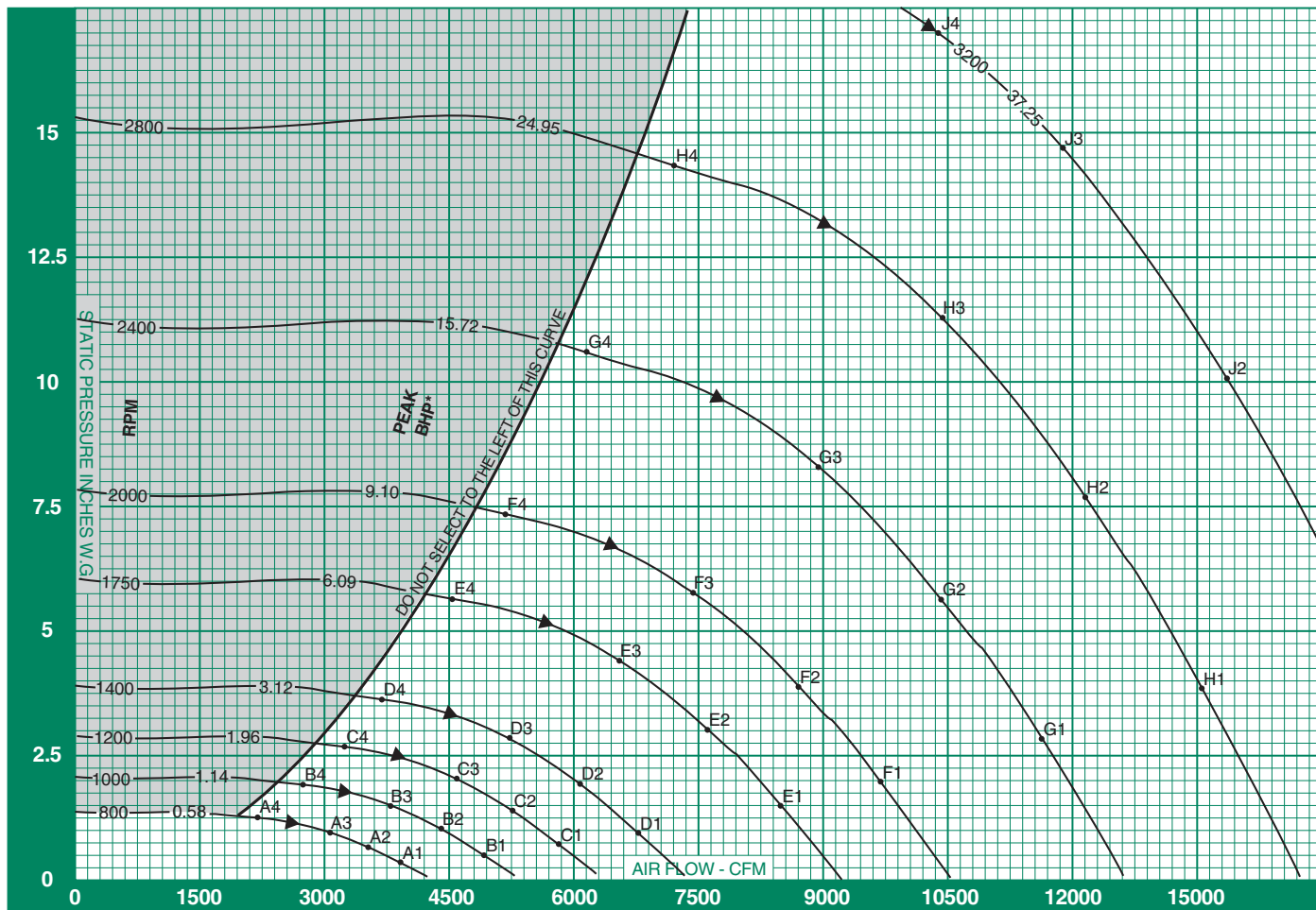
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
800	0.25	A1	74	79	75	71	70	67	61	54	2000	0.25	F1	100	100	101	98	92	91	88	83
	0.38	A2	74	79	75	71	70	67	61	54		2.35	F2	100	99	101	98	92	91	88	82
	0.63	A3	74	79	75	71	70	67	60	54		3.92	F3	100	99	101	98	92	91	88	82
	0.95	A4	74	79	75	71	70	66	61	55		5.96	F4	100	99	102	98	92	91	88	82
1000	0.25	B1	81	83	82	77	76	73	67	61	2400	0.25	G1	103	106	105	104	98	95	93	88
	0.59	B2	80	84	82	77	76	73	67	61		2.35	G2	103	105	105	104	98	95	93	88
	0.98	B3	80	84	82	77	76	73	67	61		5.65	G3	103	105	105	104	98	95	93	88
	1.49	B4	79	84	82	77	76	73	67	61		8.58	G4	103	105	105	104	97	95	93	88
1200	0.25	C1	86	88	87	83	80	78	73	67	2800	0.25	H1	105	110	109	108	102	99	97	93
	0.85	C2	86	87	88	83	80	78	73	67		4.61	H2	106	110	108	109	102	98	97	93
	1.41	C3	86	87	88	83	80	78	73	67		7.69	H3	106	110	108	109	102	98	97	93
	2.15	C4	85	87	88	82	80	78	73	67		11.68	H4	106	110	108	109	102	98	97	92
1400	0.25	D1	91	91	92	87	83	82	78	71	3200	0.25	J1	108	114	112	112	106	102	101	97
	1.15	D2	91	91	92	87	83	82	78	72		6.02	J2	108	114	111	113	106	101	101	97
	1.92	D3	91	91	92	87	83	82	78	71		10.04	J3	108	114	111	113	106	101	101	97
	2.92	D4	90	90	93	87	83	82	77	72		15.26	J4	108	114	111	113	106	101	100	97
1750	0.25	E1	97	97	98	94	88	88	85	78	3450	0.25	K1	109	116	114	114	109	103	103	99
	1.80	E2	98	95	99	94	88	88	84	78		7.00	K2	110	117	113	115	109	103	103	99
	3.00	E3	98	95	99	94	88	88	84	78		11.67	K3	110	117	113	115	109	103	103	99
	4.56	E4	98	95	99	94	88	88	84	78		17.00	K4	110	117	112	115	108	103	102	99



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-222 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

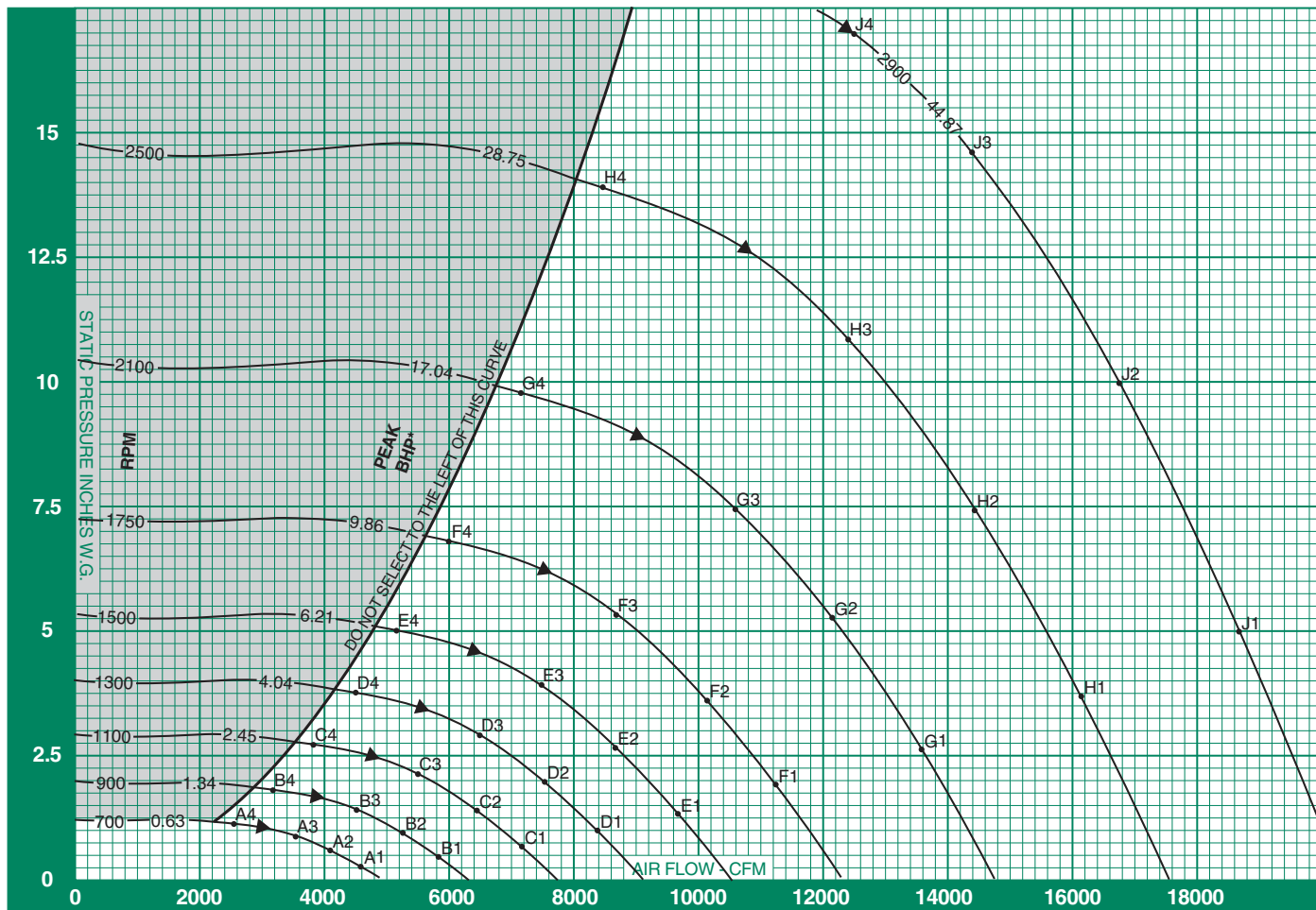
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
800	0.31	A1	69	72	69	67	64	64	52	40	1750	4.40	E3	93	91	90	84	81	79	77	71	
	0.63	A2	70	71	67	65	62	59	52	45		5.60	E4	103	99	97	91	86	86	81	75	
	0.92	A3	70	71	66	64	62	59	53	47		2000	1.96	F1	97	95	95	91	88	85	86	76
	1.17	A4	77	78	72	69	68	63	57	51			3.92	F2	96	95	94	89	86	83	81	74
1000	0.49	B1	76	78	75	73	70	71	61	49	2400	5.75	F3	95	95	94	89	85	82	80	75	
	0.98	B2	76	76	73	71	68	66	59	52		7.31	F4	106	104	101	95	90	89	85	79	
	1.44	B3	76	76	73	70	67	65	60	54		2800	2.82	G1	100	101	99	97	93	90	89	83
	1.83	B4	84	84	79	75	73	70	64	58			5.64	G2	99	101	99	95	91	88	85	80
1200	0.71	C1	82	82	81	78	75	74	68	56	3200	8.28	G3	99	101	99	95	90	87	85	80	
	1.41	C2	82	81	79	76	73	70	65	58		10.53	G4	109	110	106	101	95	93	90	85	
	2.07	C3	82	81	79	74	72	70	65	59		3200	3.84	H1	103	106	103	102	97	94	92	89
	2.63	C4	91	89	85	80	78	75	70	63			7.68	H2	102	106	103	100	95	92	89	85
1400	0.96	D1	87	85	86	81	79	77	74	62	3200	11.26	H3	101	106	103	100	94	91	88	85	
	1.92	D2	86	85	84	79	77	74	70	63		14.34	H4	111	115	110	107	100	96	94	89	
	2.82	D3	86	85	84	79	76	73	70	64		3200	5.02	J1	105	111	106	106	100	97	95	95
	3.58	D4	96	93	91	85	81	79	74	68			10.03	J2	104	110	106	104	98	95	92	90
1750	1.50	E1	95	91	92	87	85	81	83	71	14.71	J3	104	110	106	104	97	94	92	89		
	3.00	E2	93	91	90	85	83	79	77	70	17.00	J4	108	114	109	108	100	97	95	92		



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-245 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

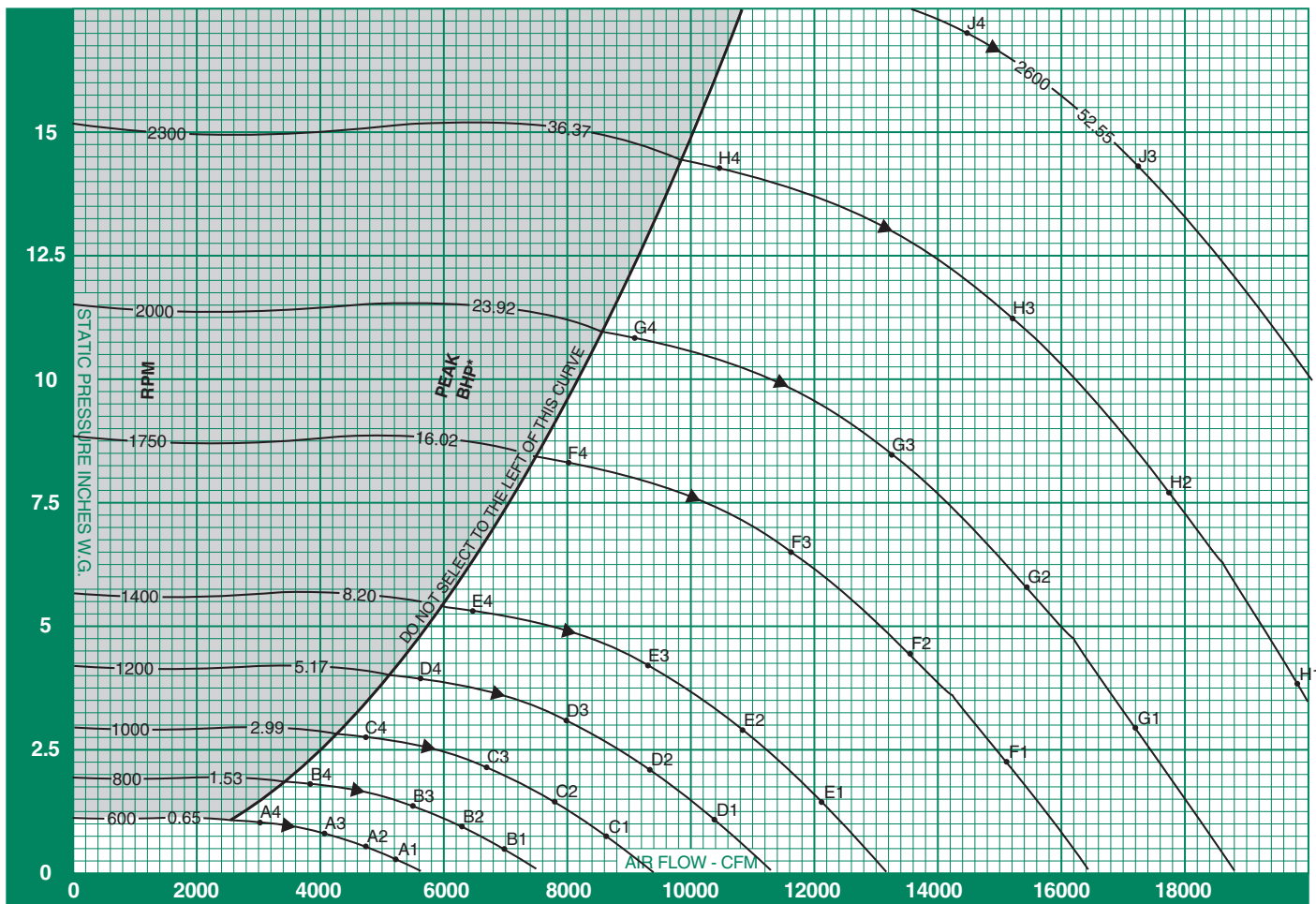
FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
700	0.29	A1	70	72	69	67	65	62	50	38	1500	3.92	E3	92	91	89	83	80	78	75	69	
	0.58	A2	70	70	67	65	62	58	51	43		4.99	E4	102	98	96	89	86	84	79	73	
	0.85	A3	70	70	66	63	61	58	52	46		1750	1.82	F1	98	94	95	90	88	84	86	74
	1.09	A4	77	76	72	69	67	62	56	49			3.64	F2	97	95	93	88	86	82	80	73
900	0.48	B1	76	78	75	73	70	71	60	48	2100	5.33	F3	97	95	94	87	84	82	80	74	
	0.96	B2	76	77	73	71	68	66	59	52		6.79	F4	107	102	100	94	89	88	84	78	
	1.41	B3	76	77	72	70	67	65	60	54		2500	2.62	G1	101	100	99	96	92	89	89	81
	1.80	B4	84	84	79	75	74	70	64	57			5.24	G2	100	100	98	94	90	87	85	79
1100	0.72	C1	82	83	81	78	75	75	68	55	2900	7.68	G3	100	100	98	93	89	86	84	79	
	1.44	C2	83	82	79	76	73	71	65	58		9.78	G4	110	109	106	100	94	93	89	83	
	2.11	C3	83	82	79	75	72	70	66	60		3.71	H1	104	106	103	101	97	94	93	88	
	2.68	C4	91	90	86	81	79	76	70	63			7.42	H2	103	106	103	99	95	92	89	85
1300	1.00	D1	88	87	86	83	80	79	74	62	3.92	H3	103	105	103	99	94	91	89	85		
	2.01	D2	88	87	85	81	78	75	71	63		10.89	H4	113	115	110	106	99	97	94	89	
	2.94	D3	88	87	85	80	77	74	71	65		4.99	J1	107	111	107	106	100	98	96	94	
	3.75	D4	97	94	91	85	82	80	75	69			9.99	J2	106	110	107	104	98	96	93	89
1500	1.34	E1	93	90	91	86	84	81	80	68	14.65	J3	105	110	107	104	97	95	92	89		
	2.67	E2	92	90	89	84	81	78	75	68		17.00	J4	111	116	112	108	101	98	96	91	





# CONSTANT SPEED PERFORMANCE CURVES

# BCS-270 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

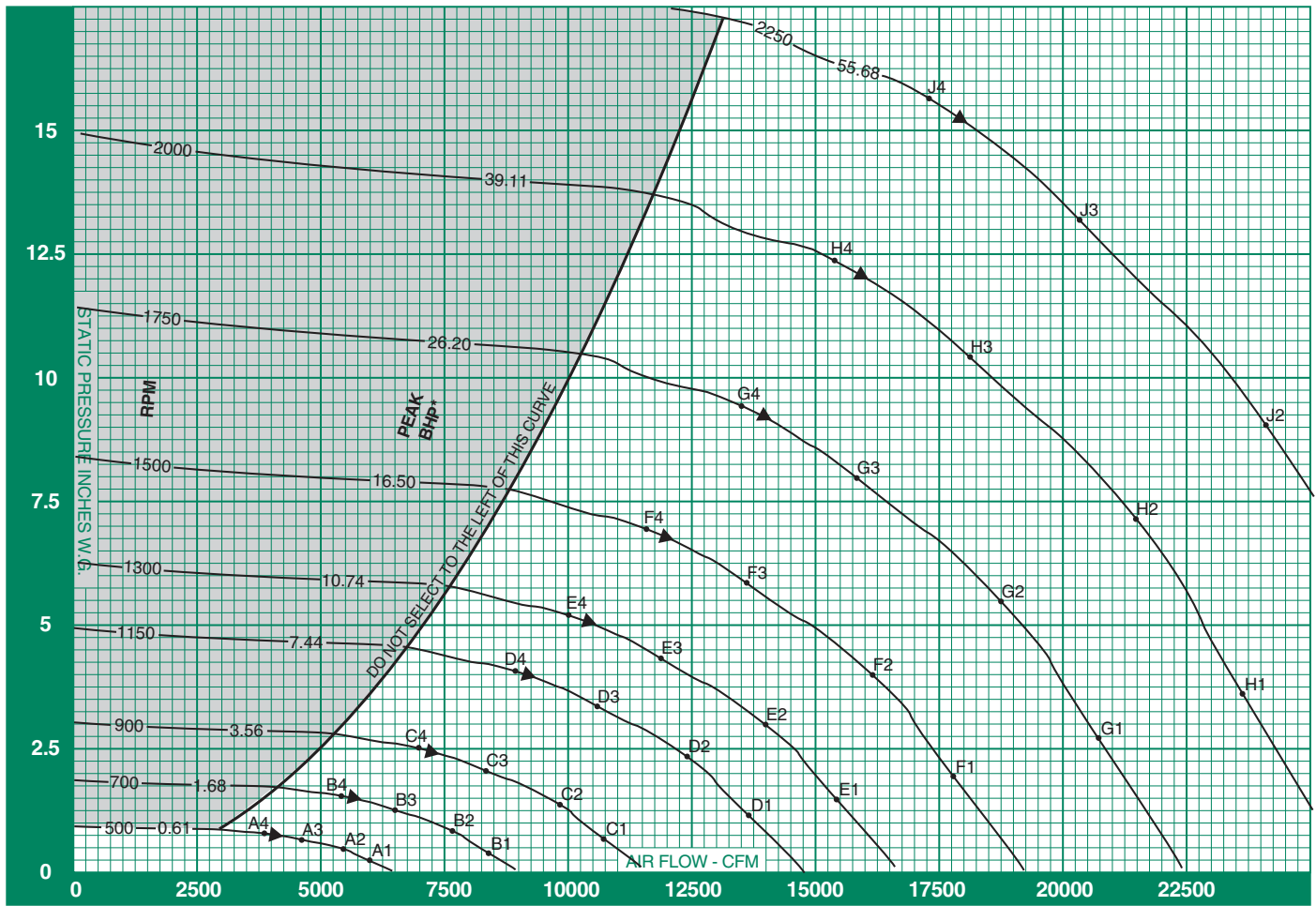
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
600	0.26	A1	70	70	68	65	65	59	47	35	1400	4.15	E3	93	92	90	84	81	79	76	70	
	0.52	A2	69	68	66	63	61	56	49	41		5.28	E4	103	100	97	90	87	85	80	74	
	0.76	A3	69	68	65	63	60	56	50	44		1750	2.21	F1	102	97	98	93	91	87	89	77
	0.97	A4	77	75	70	68	66	60	54	48			4.42	F2	101	98	96	91	89	85	83	76
800	0.46	B1	76	79	75	73	70	70	58	46	2000	6.48	F3	100	98	97	90	87	85	83	77	
	0.92	B2	77	77	73	71	68	65	58	51		8.25	F4	110	106	104	97	92	91	87	81	
	1.35	B3	77	77	72	70	67	65	59	53		2300	2.88	G1	104	102	101	97	94	91	91	82
	1.72	B4	85	84	79	75	74	69	63	57			5.77	G2	103	102	100	95	92	89	87	80
1000	0.72	C1	83	84	81	79	76	76	67	55	2600	8.46	G3	103	102	100	95	91	88	86	81	
	1.44	C2	83	83	80	77	74	71	65	58		10.77	G4	113	110	107	101	96	94	91	85	
	2.12	C3	83	83	79	76	73	71	66	60		3.82	H1	106	106	105	102	97	94	94	87	
	2.69	C4	92	90	86	81	79	76	70	63			7.63	H2	105	106	104	100	95	92	90	85
1200	1.04	D1	89	89	87	84	81	80	74	62	1400	11.19	H3	105	106	104	99	94	92	89	85	
	2.08	D2	89	88	85	82	78	76	71	64		14.24	H4	115	115	111	106	100	98	95	89	
	3.05	D3	89	88	85	80	78	75	71	65		4.88	J1	109	111	107	105	101	98	97	92	
	3.88	D4	98	95	92	86	83	81	76	69			9.75	J2	107	110	107	103	99	96	93	89
1400	1.41	E1	94	92	92	87	85	83	80	68	1400	14.30	J3	107	110	107	103	98	95	92	89	
	2.83	E2	94	92	90	85	83	80	76	69		17.00	J4	114	116	113	108	101	98	96	92	



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-300 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

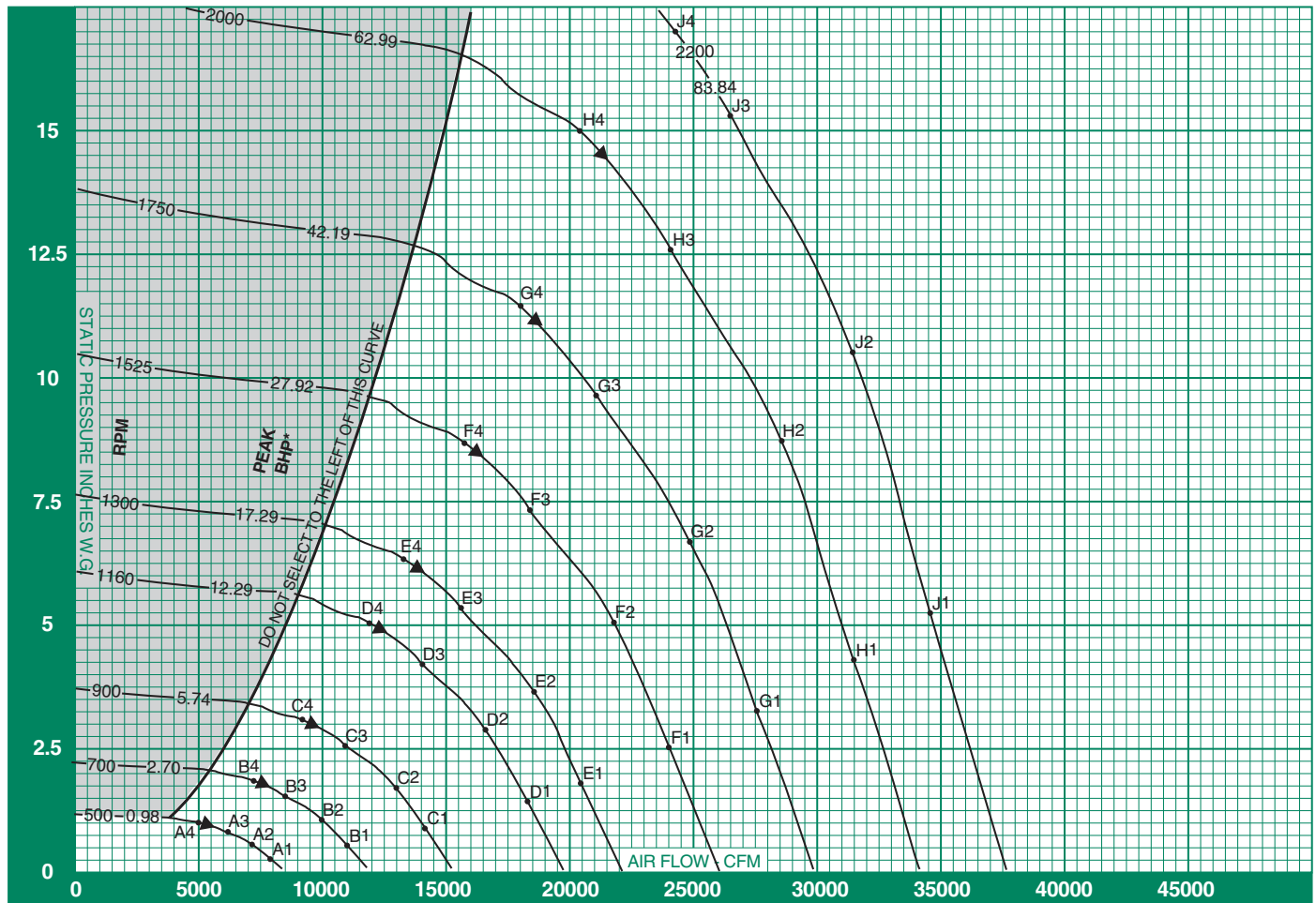
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
500	0.25	A1	70	67	66	64	64	56	45	34	1300	4.41	E3	90	88	90	84	83	81	77	69	
	0.45	A2	67	65	64	61	61	54	44	35		5.22	E4	90	88	88	83	82	80	76	69	
	0.65	A3	67	64	63	61	60	53	45	37		1500	2.02	F1	95	92	99	91	90	87	86	75
	0.77	A4	65	62	62	60	58	52	46	39			4.04	F2	94	90	96	89	87	85	83	74
700	0.44	B1	73	80	74	73	71	69	57	46	1750	5.88	F3	96	90	95	87	86	84	82	74	
	0.88	B2	71	77	72	71	68	66	56	47		6.95	F4	96	90	93	86	85	83	80	73	
	1.28	B3	70	76	70	70	67	65	57	48		2000	2.75	G1	101	93	104	94	94	90	92	81
	1.51	B4	70	74	69	68	66	63	56	50			5.50	G2	100	92	101	92	92	88	88	79
900	0.73	C1	75	88	80	80	76	77	67	56	2250	8.00	G3	102	91	100	91	90	88	87	79	
	1.45	C2	74	85	78	77	74	74	65	56		9.46	G4	103	92	98	90	89	87	85	78	
	2.12	C3	74	84	76	76	73	73	65	57		1300	3.59	H1	103	98	105	99	97	94	95	86
	2.50	C4	75	82	75	75	72	71	64	57			7.18	H2	102	97	103	97	95	92	91	84
1150	1.19	D1	85	90	89	85	82	82	76	65	1500	10.45	H3	105	97	102	96	93	91	90	84	
	2.38	D2	84	87	87	83	80	79	74	64		12.36	H4	105	98	100	95	92	90	88	82	
	3.45	D3	84	87	86	82	79	78	73	65		1750	4.55	J1	105	103	106	104	99	97	97	90
	4.09	D4	85	86	84	80	78	77	72	65			9.09	J2	104	102	104	101	97	95	94	88
1300	1.52	E1	90	91	94	88	86	84	81	70	2000	13.22	J3	107	102	103	100	96	94	93	87	
	3.04	E2	89	89	91	86	84	82	78	69		15.64	J4	107	103	102	99	95	93	91	86	



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-330 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

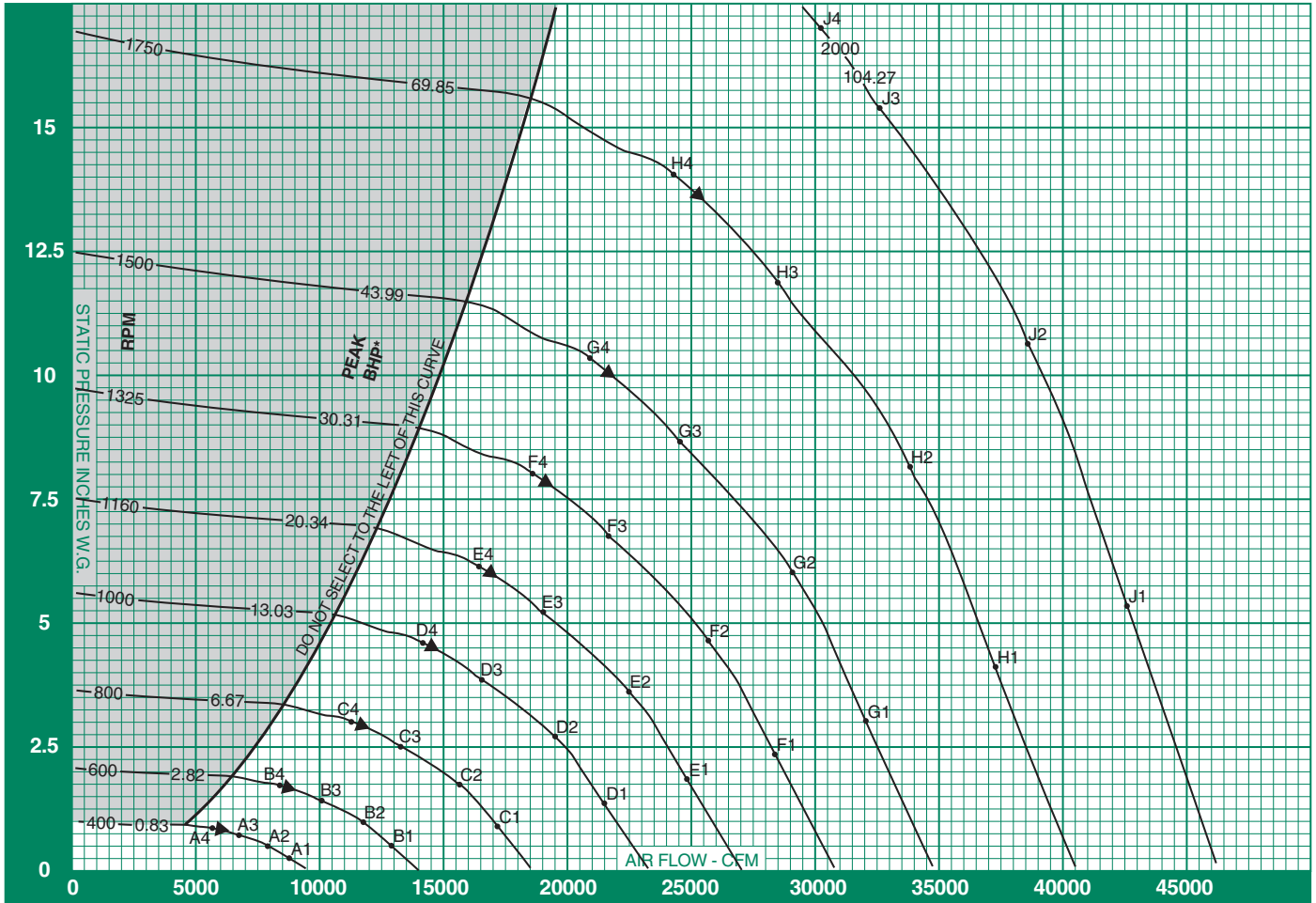
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
500	0.27	A1	74	70	69	67	67	59	48	37	1300	5.34	E3	93	91	93	87	86	84	80	72	
	0.54	A2	71	68	67	64	64	57	47	38		6.32	E4	94	91	91	86	84	82	79	72	
	0.79	A3	70	67	66	64	63	56	48	40		1525	2.53	F1	99	95	103	94	93	90	90	79
	0.93	A4	68	66	65	63	61	55	49	42			5.05	F2	98	94	100	92	91	88	87	77
700	0.53	B1	76	83	77	76	74	71	60	49	1750	7.35	F3	100	93	99	91	90	87	86	77	
	1.06	B2	75	80	75	74	71	68	59	50		8.69	F4	101	93	97	90	88	86	84	77	
	1.55	B3	74	79	73	72	70	68	59	51		2000	3.33	G1	104	96	107	97	97	93	95	84
	1.83	B4	74	78	72	71	69	66	59	52			6.65	G2	103	95	104	95	95	91	91	82
900	0.88	C1	79	91	83	83	79	80	70	59	2200	9.68	G3	106	95	103	94	93	90	90	82	
	1.76	C2	78	88	81	80	76	77	68	59		11.45	G4	106	96	101	93	92	90	88	81	
	2.56	C3	77	87	79	79	76	76	68	60		1300	4.35	H1	107	101	108	102	100	97	97	89
	3.03	C4	78	85	78	78	75	74	67	60			8.69	H2	106	100	106	100	98	94	94	87
1160	1.46	D1	89	93	92	88	86	85	79	68	1750	12.64	H3	108	100	105	99	96	94	93	86	
	2.92	D2	88	91	90	86	83	82	77	67		14.95	H4	109	101	103	98	95	93	91	85	
	4.25	D3	88	90	89	85	83	81	76	68		2000	5.26	J1	108	105	109	106	102	99	99	92
	5.03	D4	89	89	87	83	82	80	75	68			10.52	J2	107	104	107	104	100	97	96	90
1300	1.84	E1	93	94	97	90	89	87	84	73	2200	15.30	J3	110	104	106	102	98	96	95	90	
	3.67	E2	92	92	94	88	86	85	81	72		17.00	J4	110	105	105	101	97	95	93	88	



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-365 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

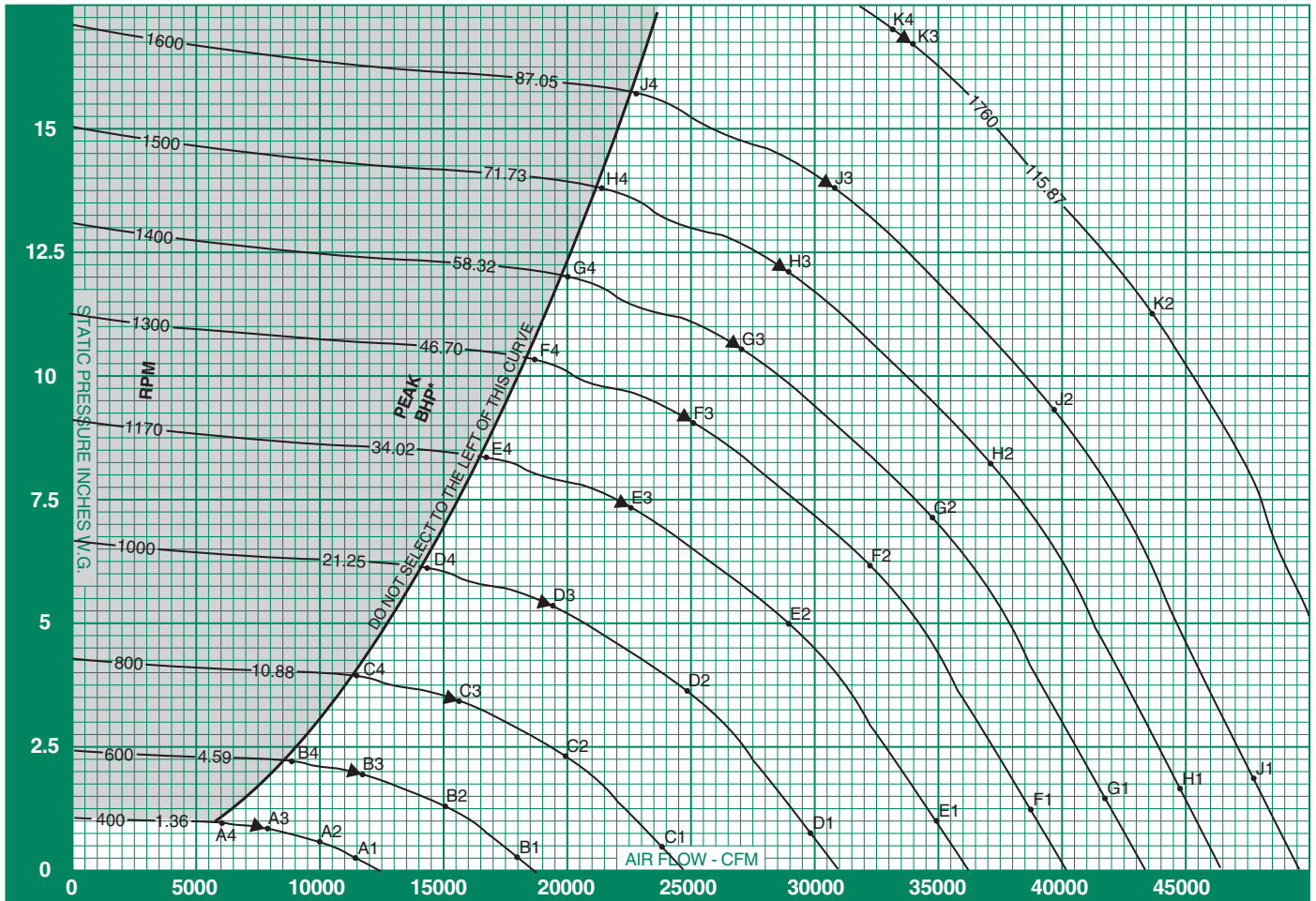
FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
400	0.25	A1	74	66	67	64	64	53	42	31	1160	5.20	E3	92	93	92	88	86	84	79	71	
	0.43	A2	71	65	65	62	61	52	42	33		6.15	E4	93	92	91	86	85	83	78	71	
	0.62	A3	70	63	64	61	60	52	44	36		1325	2.33	F1	97	98	101	94	92	91	87	76
	0.73	A4	67	62	62	60	58	51	45	38			4.67	F2	96	96	98	92	90	88	85	75
600	0.48	B1	79	81	76	75	74	69	58	46	1500	6.79	F3	97	95	97	91	89	87	84	76	
	0.96	B2	76	78	74	72	71	66	57	47		8.03	F4	98	95	95	90	88	86	82	76	
	1.39	B3	76	77	73	72	70	66	57	49		1750	2.99	G1	102	98	106	97	96	93	92	81
	1.65	B4	75	75	72	70	68	64	57	51			5.98	G2	101	97	103	95	93	91	89	80
800	0.85	C1	81	92	83	83	79	80	68	57	2000	8.70	G3	103	96	102	93	92	90	88	80	
	1.70	C2	80	89	81	80	77	76	67	57		10.29	G4	103	96	100	92	91	89	86	79	
	2.47	C3	79	88	80	79	76	75	67	59		1160	4.07	H1	108	100	111	100	100	96	98	87
	2.93	C4	79	86	79	78	75	73	66	60			8.14	H2	107	99	107	98	98	94	94	85
1000	1.33	D1	87	95	90	88	85	85	77	66	1325	11.84	H3	109	98	106	97	96	93	93	85	
	2.66	D2	85	93	88	86	82	82	75	65		14.00	H4	110	99	104	96	95	93	91	84	
	3.87	D3	85	92	87	84	82	81	74	66		1500	5.32	J1	110	105	112	105	103	100	100	92
	4.57	D4	86	90	85	83	81	79	73	67			10.63	J2	109	104	109	103	101	98	97	90
1160	1.79	E1	92	96	96	91	89	88	82	71	1750	15.47	J3	112	104	108	102	99	97	96	90	
	3.58	E2	91	94	93	89	86	85	80	71		17.00	J4	112	105	107	101	98	96	94	89	





# CONSTANT SPEED PERFORMANCE CURVES

# BCS-402 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

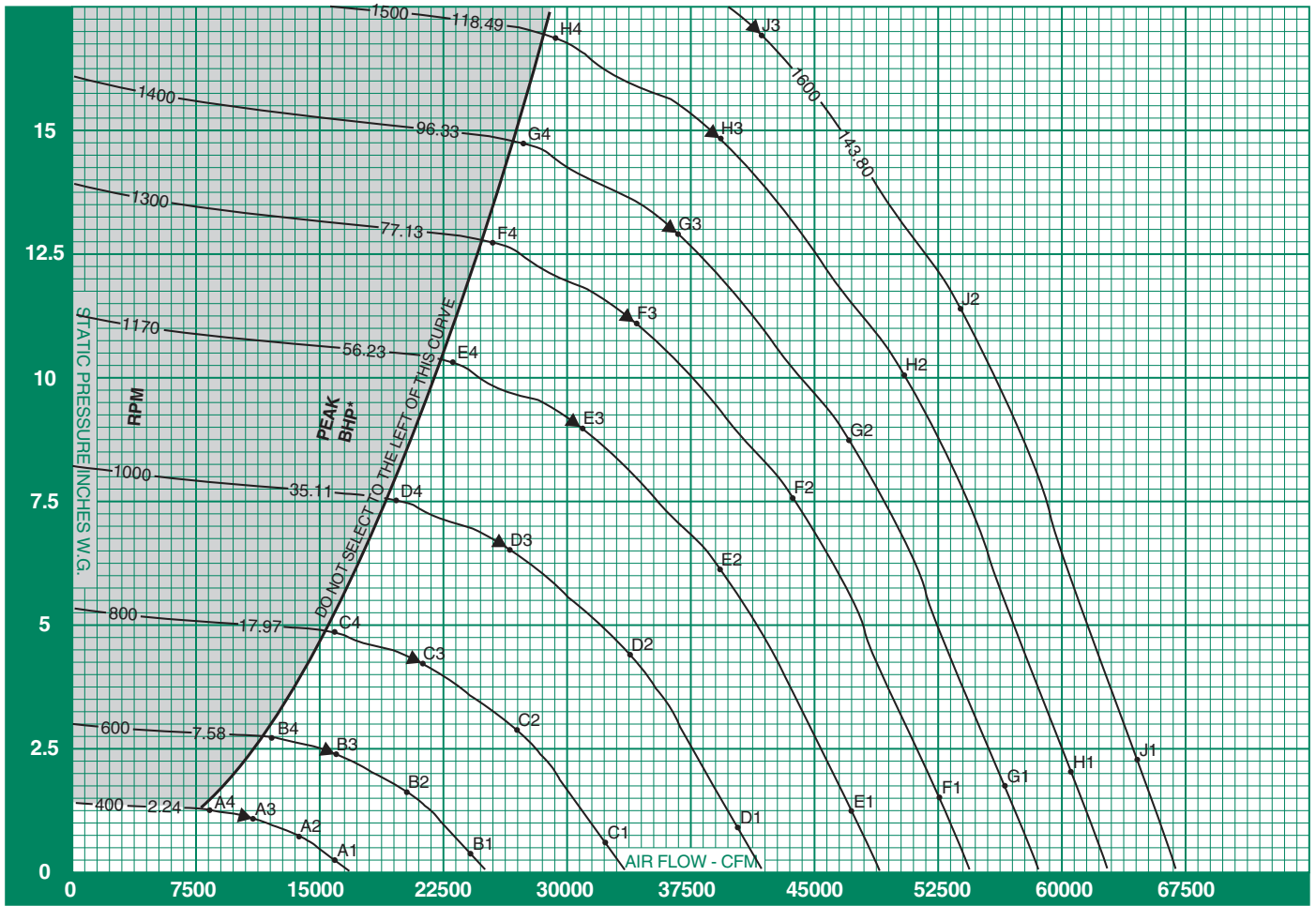
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
400	0.25	A1	82	74	73	74	69	61	53	46	1300	1.23	F1	103	109	109	101	101	100	94	85
	0.58	A2	79	72	69	69	65	58	52	46		6.16	F2	102	107	105	98	95	94	89	82
	0.86	A3	76	71	66	67	63	57	51	45		9.12	F3	103	106	103	96	92	92	87	80
	0.98	A4	76	74	68	70	66	58	51	45		10.35	F4	110	112	104	99	95	94	89	82
600	0.26	B1	90	90	84	85	83	76	68	60	1400	1.43	G1	104	110	112	103	103	102	97	88
	1.31	B2	87	86	80	78	77	71	64	58		7.15	G2	103	108	108	100	97	96	91	84
	1.94	B3	86	84	78	76	74	69	63	57		10.58	G3	104	108	105	98	94	94	89	83
	2.21	B4	91	86	81	78	77	71	64	57		12.01	G4	112	114	107	101	96	96	92	84
800	0.47	C1	94	101	91	91	91	86	77	69	1500	1.64	H1	105	111	115	104	104	104	99	90
	2.33	C2	93	96	88	85	84	80	73	67		8.20	H2	104	110	110	102	98	98	93	86
	3.45	C3	94	94	87	81	82	78	72	66		12.14	H3	105	110	108	100	95	95	91	85
	3.92	C4	101	94	90	84	85	81	73	67		13.78	H4	113	117	109	103	97	98	94	86
1000	0.73	D1	98	105	99	96	96	93	85	77	1600	1.87	J1	106	112	117	106	106	106	101	92
	3.65	D2	97	101	96	91	89	87	80	74		9.34	J2	105	111	113	104	100	99	95	88
	5.40	D3	98	100	94	88	87	84	79	73		13.82	J3	106	112	110	102	96	97	93	87
	6.13	D4	106	102	97	90	89	87	81	74		15.68	J4	114	119	110	105	99	100	96	88
1170	1.00	E1	101	108	105	99	99	97	90	82	1760	2.26	K1	108	114	119	109	108	108	104	96
	4.99	E2	100	105	102	95	93	91	85	78		11.30	K2	107	113	115	107	102	102	98	91
	7.39	E3	101	104	99	93	90	89	84	77		16.72	K3	108	114	112	105	99	99	96	90
	8.39	E4	108	108	101	95	92	91	86	79		17.00	K4	109	115	112	105	99	99	96	90



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-445 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

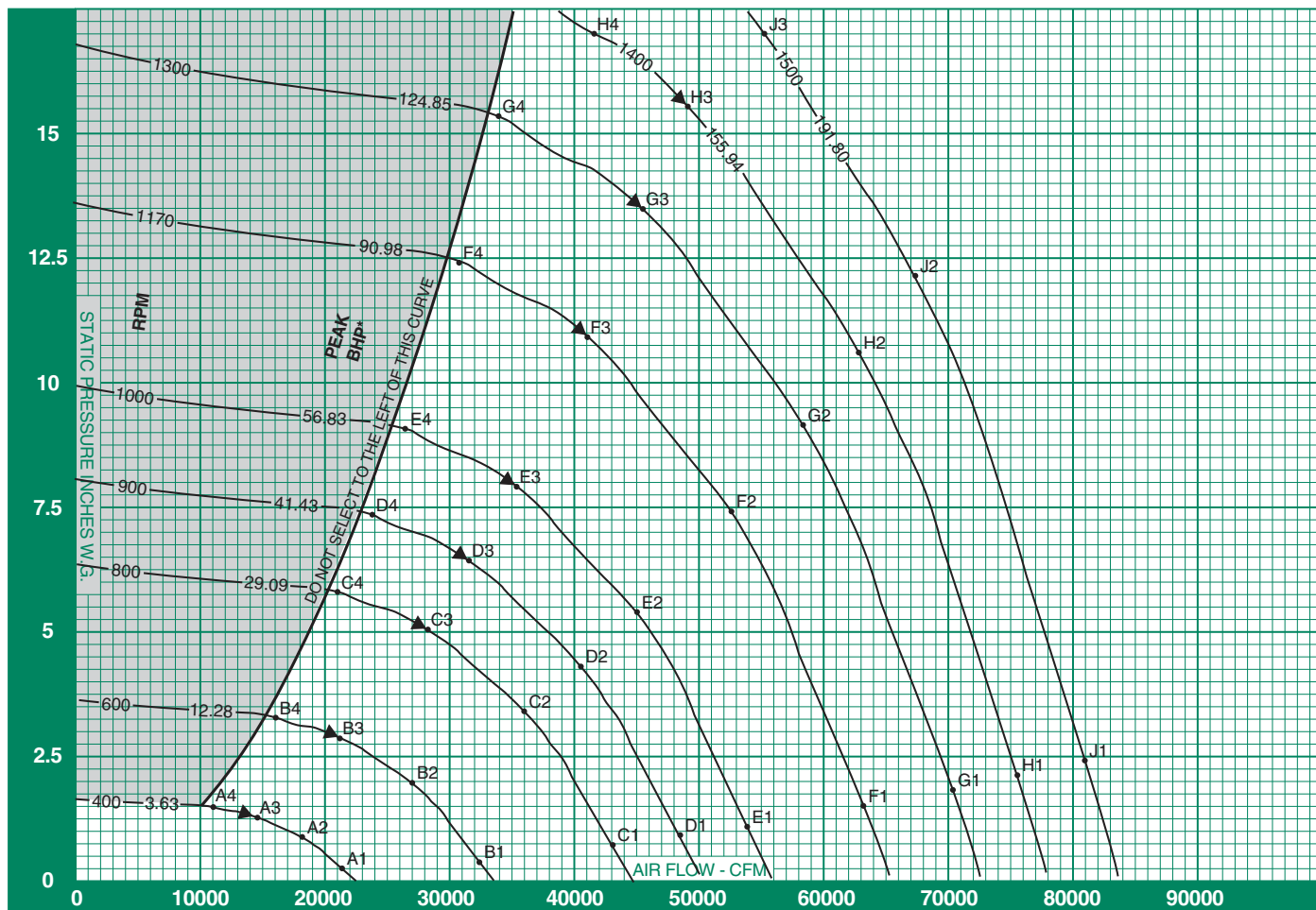
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
400	0.25	A1	86	78	78	78	73	64	57	49	1170	9.03	E3	104	107	103	96	93	92	87	80	
	0.71	A2	82	76	73	72	68	61	55	49		10.25	E4	112	111	104	98	96	94	89	82	
	1.06	A3	79	74	69	70	66	60	54	48		1300	1.51	F1	106	112	112	104	104	103	97	89
	1.20	A4	80	77	71	73	69	61	55	48			7.53	F2	105	110	108	101	98	97	92	85
600	0.32	B1	94	93	87	88	86	79	71	63	11.15	F3	106	110	106	99	95	95	90	84		
	1.60	B2	91	90	84	82	80	74	67	61	12.66	F4	114	115	107	102	98	97	92	85		
	2.37	B3	90	88	81	79	77	72	66	60	1400	1.75	G1	107	113	115	106	106	105	100	91	
	2.70	B4	94	89	84	81	80	75	67	60		8.74	G2	106	112	111	103	100	99	94	87	
800	0.57	C1	98	104	94	94	94	89	80	72		12.93	G3	107	112	108	101	97	97	92	86	
	2.85	C2	97	100	91	88	87	83	76	70		14.68	G4	115	118	110	104	99	99	95	87	
	4.22	C3	97	97	90	84	85	81	75	69	1500	2.01	H1	109	114	118	108	107	107	102	93	
	4.79	C4	105	98	93	87	88	84	76	70		10.03	H2	108	113	113	105	101	101	96	89	
1000	0.89	D1	102	109	102	99	99	96	88	80		14.84	H3	109	113	111	103	98	98	94	88	
	4.46	D2	101	105	99	94	92	90	83	77		16.85	H4	116	120	112	106	100	101	97	89	
	6.60	D3	102	103	97	91	90	88	82	76	1600	2.28	J1	110	115	120	109	109	109	104	95	
	7.49	D4	109	105	100	93	92	90	84	77		11.41	J2	109	114	116	107	103	103	98	91	
1170	1.22	E1	104	111	108	102	102	100	93	85		16.89	J3	110	115	113	105	99	100	96	90	
	6.10	E2	103	108	105	98	96	94	88	81												



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-490 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

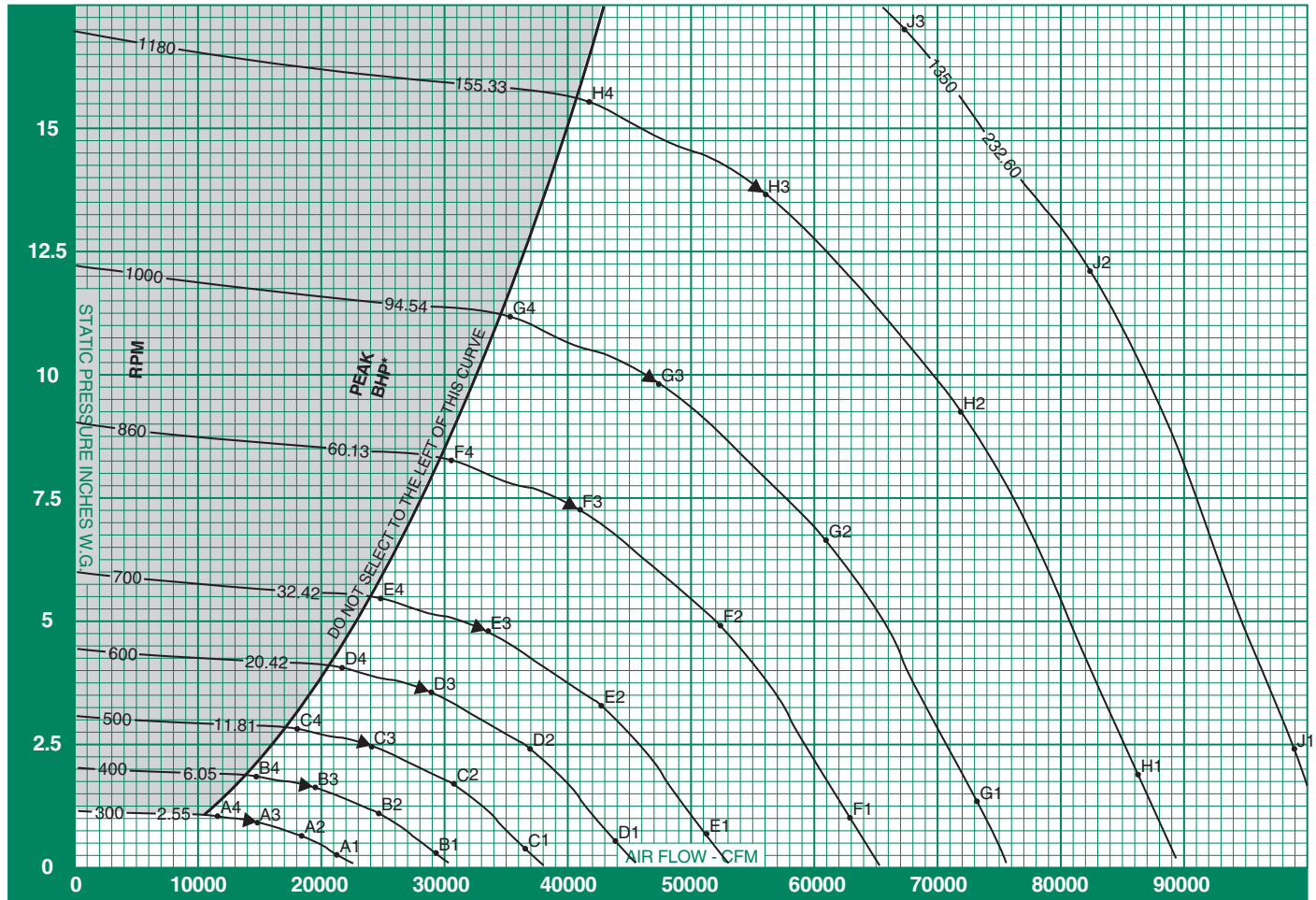
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
400	0.25	A1	89	81	80	81	76	68	60	52	1000	8.00	E3	105	106	100	94	93	90	85	79	
	0.86	A2	85	79	76	75	71	64	58	52		9.08	E4	113	109	103	96	95	93	87	80	
	1.28	A3	83	77	72	73	69	63	57	51		1170	1.48	F1	108	114	111	105	105	103	96	88
	1.45	A4	83	80	74	76	72	64	57	51			7.40	F2	107	111	108	101	99	97	91	84
600	0.39	B1	97	96	90	91	89	82	74	66	1300	10.95	F3	108	110	106	99	96	95	90	83	
	1.95	B2	94	93	87	84	82	77	70	64		12.43	F4	115	114	107	101	98	97	92	85	
	2.88	B3	93	91	84	82	80	75	69	63		1400	1.83	G1	110	116	115	107	107	106	100	91
	3.27	B4	98	92	87	84	83	77	70	63			9.13	G2	108	113	111	104	101	100	95	88
800	0.69	C1	101	108	97	97	97	92	83	75	1500	13.52	G3	110	113	109	102	98	98	93	86	
	3.46	C2	100	103	94	91	90	86	79	73		15.34	G4	117	118	110	105	100	100	95	88	
	5.12	C3	101	100	93	87	88	84	78	72		1400	2.12	H1	111	117	118	109	109	108	103	94
	5.81	C4	108	101	96	90	91	87	79	72			10.59	H2	110	115	114	106	103	102	97	90
900	0.88	D1	103	110	101	99	99	96	87	79	1400	15.68	H3	111	115	111	104	100	100	95	89	
	4.38	D2	102	106	98	94	93	90	83	76		17.00	H4	115	119	112	106	101	101	96	90	
	6.48	D3	103	103	97	91	91	88	81	75		1500	2.43	J1	112	118	121	111	110	110	105	96
	7.35	D4	111	105	100	93	93	90	83	76			12.16	J2	111	116	116	108	104	104	99	92
1000	1.08	E1	105	112	105	102	102	99	91	83	1500	17.00	J3	112	117	114	106	102	102	97	91	
	5.40	E2	104	108	102	97	95	93	86	80												



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-542 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

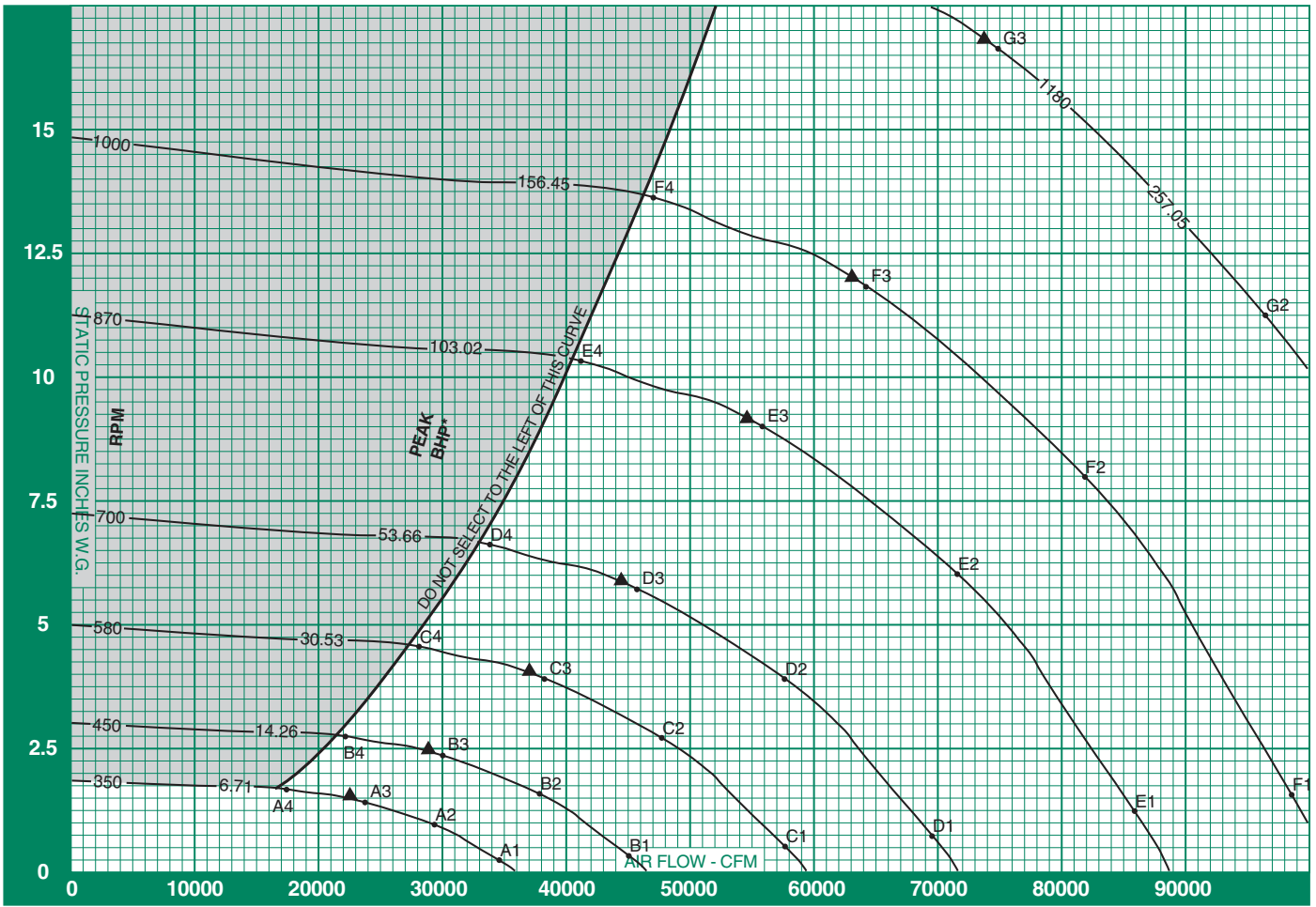
FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
300	0.25	A1	81	77	76	75	69	61	53	46	
	0.60	A2	79	74	72	71	65	58	52	46	
	0.88	A3	77	72	69	68	63	57	51	45	
	1.00	A4	79	75	72	71	65	58	51	45	
400	0.25	B1	94	84	85	85	80	71	63	55	
	1.06	B2	89	82	79	79	74	67	61	55	
	1.57	B3	86	81	75	76	72	66	60	54	
	1.78	B4	87	84	77	79	75	67	61	54	
500	0.33	C1	98	92	89	90	87	79	71	63	
	1.66	C2	94	90	85	84	81	74	68	61	
	2.45	C3	92	88	82	81	78	73	67	61	
	2.78	C4	95	90	84	84	81	75	68	61	
600	0.48	D1	101	100	93	94	92	85	77	69	
	2.38	D2	98	96	90	88	86	80	73	67	
	3.53	D3	97	94	87	85	83	78	72	66	
	4.01	D4	101	96	90	87	86	81	73	66	
700	0.65	E1	103	106	97	97	96	91	82	74	
	3.25	E2	101	102	94	91	90	85	78	72	
	700	4.80	E3	101	99	92	88	88	83	77	71
		5.45	E4	107	100	95	90	90	86	78	71
860		0.98	F1	106	113	102	101	101	97	89	81
		4.90	F2	105	108	100	96	95	92	84	78
	7.25	F3	106	105	99	92	93	89	83	77	
	8.23	F4	114	106	101	95	96	92	85	78	
1000	1.32	G1	109	115	108	105	105	102	94	86	
	6.62	G2	107	111	105	100	99	96	89	83	
	9.80	G3	109	109	103	97	96	94	88	82	
	11.13	G4	116	112	106	99	99	96	90	83	
1180	1.84	H1	111	117	114	108	108	106	100	91	
	9.22	H2	110	115	111	104	102	100	95	88	
	13.65	H3	111	114	109	102	99	98	93	87	
	15.50	H4	119	118	111	105	102	101	95	88	
1350	2.41	J1	114	119	120	111	111	110	104	96	
	12.07	J2	113	117	116	108	105	104	99	92	
	17.00	J3	114	117	113	106	102	102	97	91	





# CONSTANT SPEED PERFORMANCE CURVES

# BCS-600 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

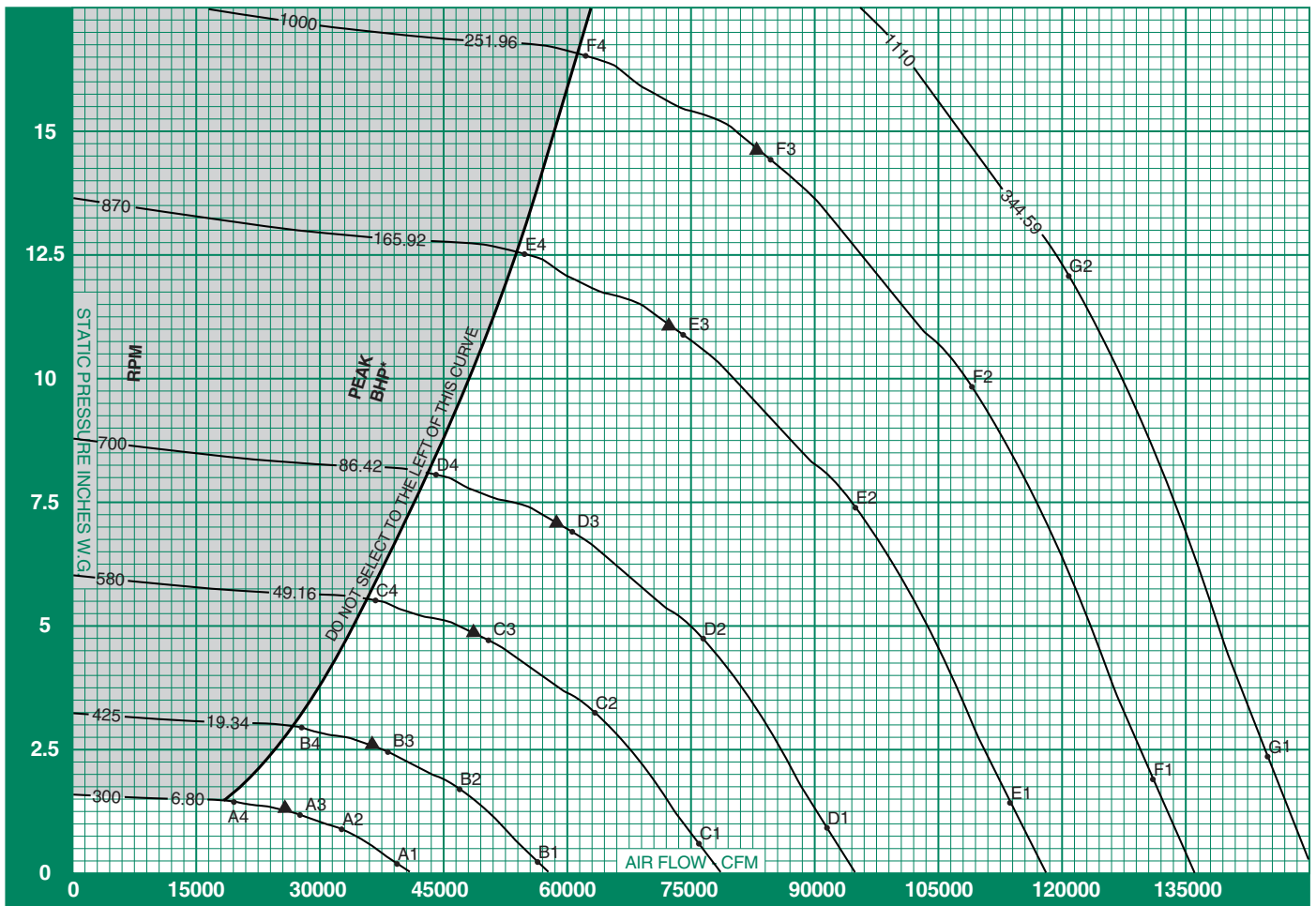
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
350	0.20	A1	92	85	85	84	79	70	65	68	
	1.00	A2	88	82	79	78	73	66	62	65	
	1.47	A3	85	80	76	76	71	65	61	64	
	1.67	A4	87	83	78	78	73	66	62	65	
450	0.33	B1	100	92	90	91	87	78	70	72	
	1.64	B2	95	89	85	84	81	74	67	69	
	2.43	B3	93	88	82	82	79	72	67	68	
	2.76	B4	94	91	84	85	81	74	67	69	
580	0.55	C1	104	101	96	96	94	87	79	76	
	2.73	C2	101	98	92	90	88	82	75	74	
	4.03	C3	100	96	89	87	86	80	74	73	
	4.58	C4	104	98	92	90	88	83	75	74	
700	0.79	D1	106	109	100	100	99	94	85	80	
	3.97	D2	104	105	97	94	93	88	81	77	
700	5.88	D3	104	102	95	91	91	86	80	76	
	6.67	D4	110	103	98	93	93	89	81	77	
	870	1.23	E1	110	116	106	105	105	101	92	84
		6.13	E2	109	112	103	99	99	95	88	81
870	9.08	E3	110	109	102	96	96	93	86	81	
	10.30	E4	117	110	105	98	99	95	88	81	
1000	1.62	F1	112	118	111	108	108	105	97	89	
	8.10	F2	111	114	108	103	102	99	92	86	
	12.00	F3	112	113	107	100	99	97	91	85	
	13.61	F4	120	115	109	102	102	99	93	86	
1180	2.26	G1	115	121	117	111	111	109	103	94	
	8.10	G2	114	118	114	107	105	103	98	91	
	16.70	G3	115	117	112	105	102	101	96	90	



# CONSTANT SPEED PERFORMANCE CURVES

# BCS-660 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

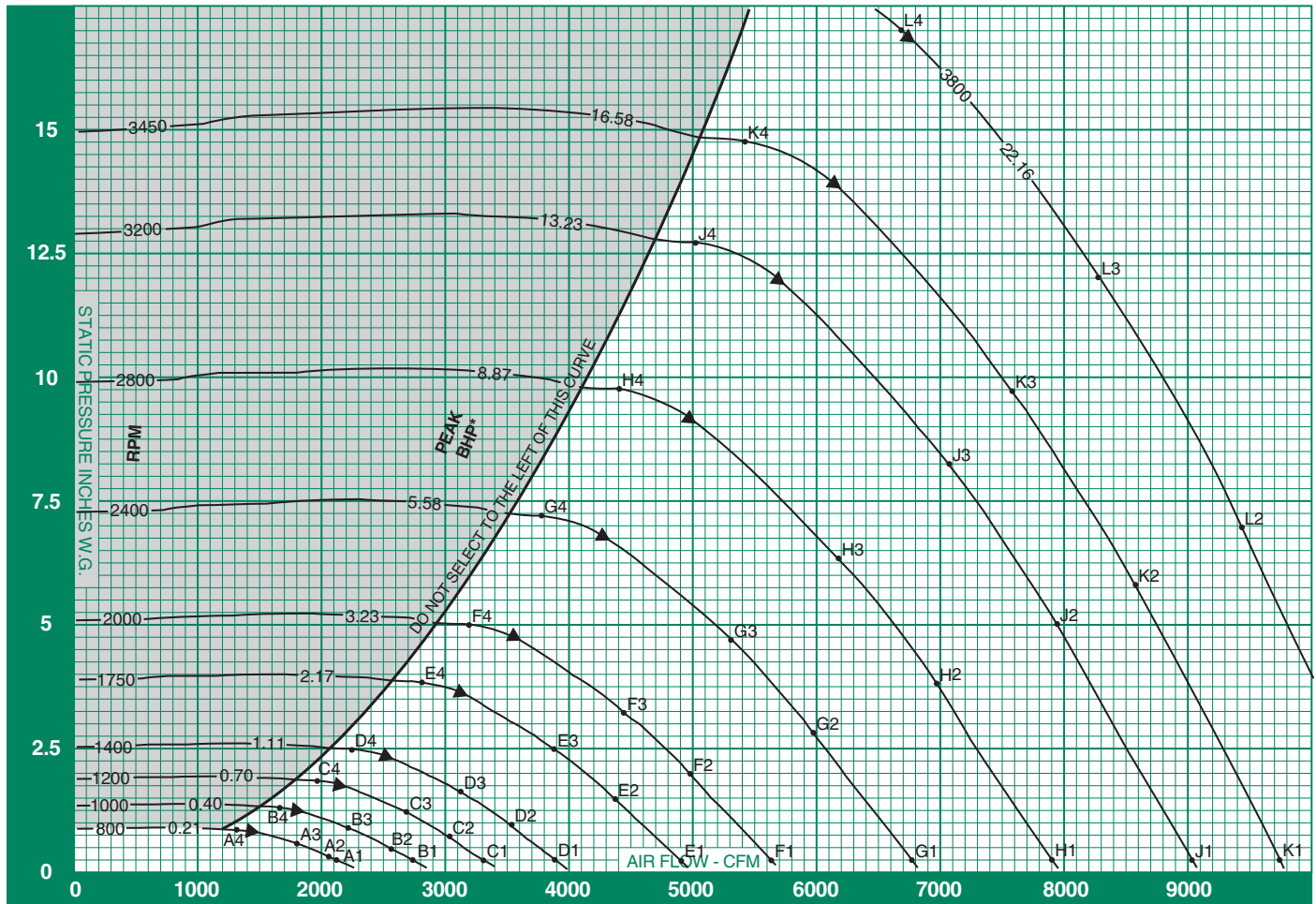
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
300	0.18	A1	89	84	84	83	76	68	65	68	700	4.80	D2	108	108	100	97	96	91	84	80
	0.88	A2	86	80	78	77	71	64	62	65		7.11	D3	108	105	98	94	93	89	83	79
	1.31	A3	83	78	75	74	69	63	61	64		8.07	D4	114	106	101	96	96	91	84	80
	1.48	A4	85	81	78	77	71	64	62	65		870	1.48	E1	113	119	108	108	108	104	95
425	0.35	B1	102	92	92	92	88	79	71	74	7.42		E2	112	115	106	102	101	98	91	84
1.77	B2	98	90	86	86	82	75	69	71	10.98	E3		113	112	105	99	99	96	89	83	
2.62	B3	95	89	83	84	80	74	68	70	12.47	E4		120	113	108	101	102	98	91	84	
580	2.98	B4	96	92	85	86	83	75	68	71	1000	1.96	F1	115	121	114	111	111	108	100	92
	0.66	C1	107	104	99	99	97	90	82	79		9.81	F2	114	117	111	106	104	102	95	89
	3.30	C2	104	101	95	93	91	85	78	77		14.51	F3	115	116	109	103	102	100	94	88
	4.88	C3	103	99	92	90	88	83	77	76		16.47	F4	123	118	112	105	104	102	96	89
700	5.54	C4	107	101	95	92	91	85	78	76	1110	2.42	G1	117	123	118	113	113	111	104	95
	0.96	D1	110	112	103	103	102	97	88	83		12.08	G2	116	120	115	109	107	105	99	92



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-182 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

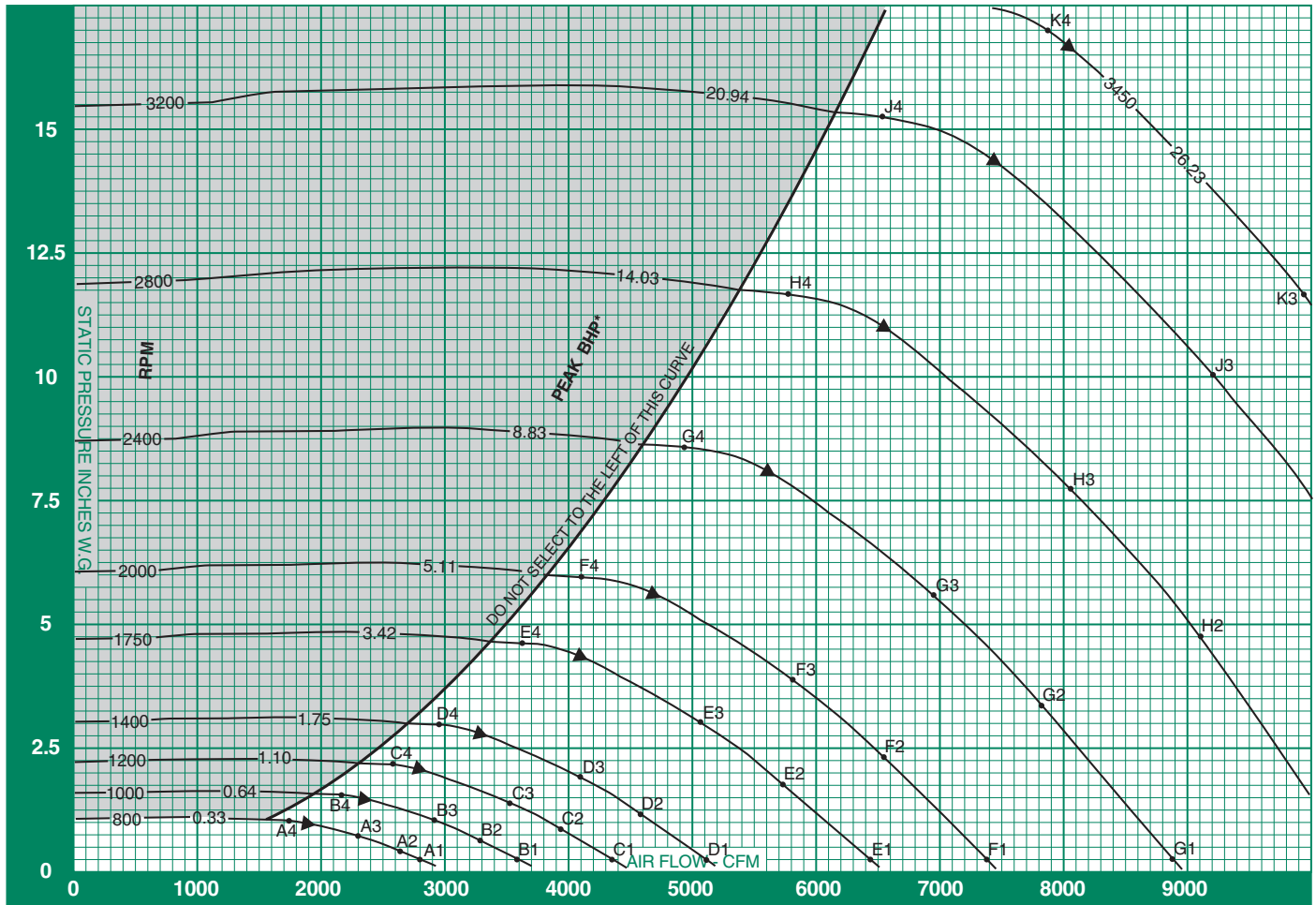
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
800	0.25	A1	67	74	70	67	66	62	58	54	2000	3.27	F3	97	93	96	94	88	86	83	79	
	0.31	A2	67	74	70	67	65	62	58	54		4.96	F4	97	93	96	93	88	86	83	79	
	0.52	A3	67	74	71	67	66	62	58	54		2400	0.25	G1	98	99	100	99	94	91	88	85
	0.79	A4	66	73	70	67	65	62	58	53			2.82	G2	99	99	100	100	93	90	88	84
1000	0.25	B1	73	79	77	73	71	68	64	60	2800	4.70	G3	100	100	99	99	94	91	88	84	
	0.49	B2	73	79	77	73	71	68	64	60		7.15	G4	100	100	99	99	93	90	88	84	
	0.82	B3	73	78	78	73	71	68	64	60		3200	0.25	H1	101	104	102	104	98	94	92	89
	1.24	B4	73	78	77	73	71	68	64	60			3.84	H2	101	105	102	104	98	94	92	89
1200	0.25	C1	80	82	83	79	75	73	69	65	3450	5.83	K2	105	112	106	110	104	99	98	94	
	0.71	C2	80	82	83	78	75	73	69	65		9.72	K3	106	113	106	110	105	99	98	94	
	1.18	C3	80	81	83	79	75	73	69	65		14.77	K4	106	113	105	110	104	99	97	94	
	1.79	C4	80	81	82	78	75	73	69	65		3800	0.25	L1	106	113	109	112	107	102	100	97
1400	0.25	D1	85	84	88	83	79	77	74	69	7.07		L2	107	114	109	112	107	102	100	97	
	0.96	D2	85	84	88	83	79	77	74	69	11.79	L3	108	115	109	112	108	102	100	97		
	1.60	D3	86	84	88	83	79	77	74	69	17.00	L4	108	115	109	111	107	101	100	97		
	2.43	D4	86	84	87	83	79	77	73	69	1750	0.25	E1	93	88	94	90	84	83	80	76	
1.50	E2	93	88	94	90	84	83	80	76	2000		1.96	F2	96	93	97	94	88	86	83	79	
2.50	E3	94	88	94	90	84	83	80	76			2400	0.25	F1	95	93	96	94	88	86	84	79
3.80	E4	94	87	94	89	84	83	80	75	1.96			F2	96	93	97	94	88	86	83	79	



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-200 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
800	0.25	A1	70	77	74	70	68	65	61	57	2000	0.25	F1	98	96	99	97	91	89	86	82
	0.38	A2	70	77	74	70	68	65	61	57		2.35	F2	99	96	100	97	91	89	86	82
	0.63	A3	70	77	74	70	68	65	61	56		3.92	F3	100	96	99	97	91	89	86	82
	0.95	A4	70	77	73	70	68	65	61	56		5.96	F4	100	96	99	96	91	89	86	82
1000	0.25	B1	77	82	80	76	74	71	67	63	2400	0.25	G1	101	102	103	102	96	93	91	87
	0.59	B2	77	82	80	76	74	71	67	63		3.39	G2	102	103	103	102	96	93	91	87
	0.98	B3	77	81	81	76	74	71	67	63		5.65	G3	103	103	102	102	97	93	91	87
	1.49	B4	76	81	80	76	73	71	67	62		8.58	G4	103	103	102	102	96	93	91	87
1200	0.25	C1	83	85	86	81	78	76	72	68	2800	0.25	H1	104	108	105	107	101	97	95	92
	0.85	C2	83	85	86	81	78	76	72	68		4.61	H2	105	108	105	107	101	97	95	91
	1.41	C3	84	85	86	82	78	76	72	68		7.69	H3	106	109	105	107	101	97	95	91
	2.15	C4	83	84	86	81	78	76	72	67		11.68	H4	106	109	105	107	100	97	95	91
1400	0.25	D1	88	88	91	86	82	80	77	72	3200	0.25	J1	106	112	108	111	105	100	99	95
	1.15	D2	89	87	91	86	82	80	76	72		6.02	J2	107	113	107	111	105	100	98	95
	1.92	D3	89	87	91	86	82	80	76	72		10.04	J3	108	114	107	111	105	100	99	95
	2.92	D4	89	87	90	85	81	80	76	72		15.26	J4	108	114	107	111	104	100	98	95
1750	0.25	E1	96	92	97	93	87	86	83	78	3450	0.25	K1	108	115	109	113	107	102	101	97
	1.80	E2	97	91	97	92	87	86	83	78		7.00	K2	109	116	109	113	107	102	100	97
	3.00	E3	98	91	97	93	87	86	83	78		11.67	K3	110	117	109	113	107	102	101	97
	4.56	E4	98	91	97	92	87	85	82	78		17.00	K4	110	117	108	113	107	102	100	97

# BCA-222

## SINGLE WIDTH

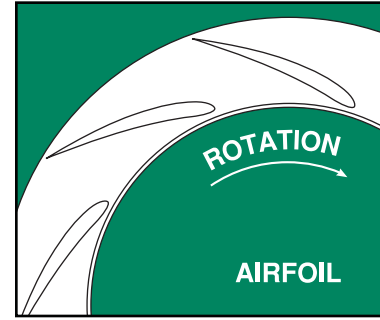
WHEEL DIAMETER: 22.25"  
 WHEEL CIRCUMFERENCE: 5.83'  
 OUTLET AREA: 2.723 SQ. FT.  
 OUTLET SIZE: 17<sup>11</sup>/<sub>16</sub>" x 22<sup>3</sup>/<sub>16</sub>"  
 INLET DIAMETER: 23<sup>1</sup>/<sub>2</sub>" O.D.



CLASS 1	CLASS 2	CLASS 3	
<b>MAX SPEEDS</b>	<b>CLASS 1</b>	<b>CLASS 2</b>	<b>CLASS 3</b>
UP TO 250°F	1922	2508	3124
251°F TO 400°F*	1826	2383	2968
401°F TO 700°F*	1576	2056	2562
ABOVE 700°F	CONTACT FACTORY		

\*SPECIAL HI-TEMP CONSTRUCTION REQUIRED

TIP SPEED (FPM) = 5.83 x RPM    MAX BHP = 1.080 x (RPM/1000)<sup>3</sup>



CFM	OV	2.50" SP RPM BHP	3.00" SP RPM BHP	3.50" SP RPM BHP						
1905	700									
2178	800									
2450	900									
2722	1000									
2994	1100									
3267	1200									
3539	1300									
3811	1400									
4083	1500			1402 2.81						
4356	1600			1419 2.97						
4628	1700			1447 3.19						
4900	1800		1409 3.00	1475 3.42						
5172	1900		1442 3.23	1507 3.67						
5445	2000	1411 3.00	1476 3.47	1540 3.93						
5717	2100	1451 3.24	1513 3.71	1573 4.20						

CFM	OV	4.00" SP RPM BHP	4.50" SP RPM BHP	5.00" SP RPM BHP	5.50" SP RPM BHP	6.00" SP RPM BHP	6.50" SP RPM BHP	7.00" SP RPM BHP	7.50" SP RPM BHP	8.00" SP RPM BHP
4628	1700	1515 3.61	1589 4.10	1662 4.62	1739 5.18	1812 5.77				
4900	1800	1541 3.85	1607 4.30	1677 4.82	1745 5.35	1817 5.95	1887 6.56	1955 7.19		
5172	1900	1570 4.11	1632 4.57	1694 5.05	1760 5.59	1824 6.14	1893 6.76	1960 7.40	2025 8.06	
5445	2000	1601 4.39	1661 4.86	1720 5.34	1778 5.84	1841 6.41	1902 6.99	1966 7.62	2031 8.29	2094 8.97
5717	2100	1634 4.68	1691 5.17	1749 5.67	1804 6.17	1859 6.68	1920 7.28	1978 7.89	2037 8.52	2100 9.22
5989	2200	1667 4.99	1724 5.50	1778 6.01	1833 6.53	1887 7.05	1938 7.59	1996 8.20	2053 8.84	2107 9.48
6262	2300	1701 5.31	1757 5.84	1811 6.37	1863 6.90	1915 7.45	1967 8.00	2016 8.55	2070 9.18	2125 9.83
6534	2400	1738 5.63	1790 6.19	1844 6.74	1895 7.30	1945 7.86	1995 8.42	2045 9.00	2092 9.58	2142 10.20
6806	2500	1774 5.97	1826 6.55	1877 7.14	1928 7.71	1977 8.28	2025 8.87	2073 9.46	2121 10.05	2167 10.66
7078	2600	1813 6.34	1863 6.93	1913 7.53	1961 8.14	2010 8.73	2057 9.33	2103 9.94	2150 10.55	2196 11.17
7351	2700	1852 6.72	1900 7.32	1949 7.94	1996 8.57	2043 9.20	2090 9.81	2136 10.44	2180 11.07	2224 11.70
7623	2800	1892 7.13	1940 7.74	1985 8.37	2032 9.01	2078 9.67	2123 10.32	2168 10.96	2212 11.60	2255 12.26
7895	2900	1933 7.55	1979 8.18	2024 8.82	2069 9.48	2114 10.15	2157 10.83	2201 11.50	2245 12.16	2287 12.83
8167	3000	1974 8.00	2019 8.65	2064 9.30	2107 9.97	2150 10.65	2193 11.35	2235 12.05	2278 12.74	2320 13.43
8440	3100	2016 8.46	2060 9.13	2104 9.80	2146 10.49	2187 11.18	2230 11.89	2271 12.61	2312 13.33	2353 14.05
8712	3200	2058 8.95	2101 9.63	2144 10.33	2186 11.03	2226 11.73	2267 12.45	2308 13.18	2348 13.93	2387 14.68
8984	3300	2100 9.46	2143 10.16	2185 10.87	2226 11.59	2266 12.31	2305 13.04	2344 13.78	2384 14.54	2423 15.31
9256	3400	2143 9.99	2185 10.71	2226 11.44	2266 12.18	2306 12.91	2345 13.66	2383 14.41	2421 15.18	2460 15.97
9529	3500	2187 10.55	2228 11.28	2268 12.03	2308 12.78	2346 13.54	2385 14.30	2422 15.07	2459 15.85	2496 16.65
9801	3600	2231 11.14	2271 11.88	2310 12.64	2349 13.41	2387 14.19	2425 14.97	2462 15.76	2498 16.55	2533 17.36

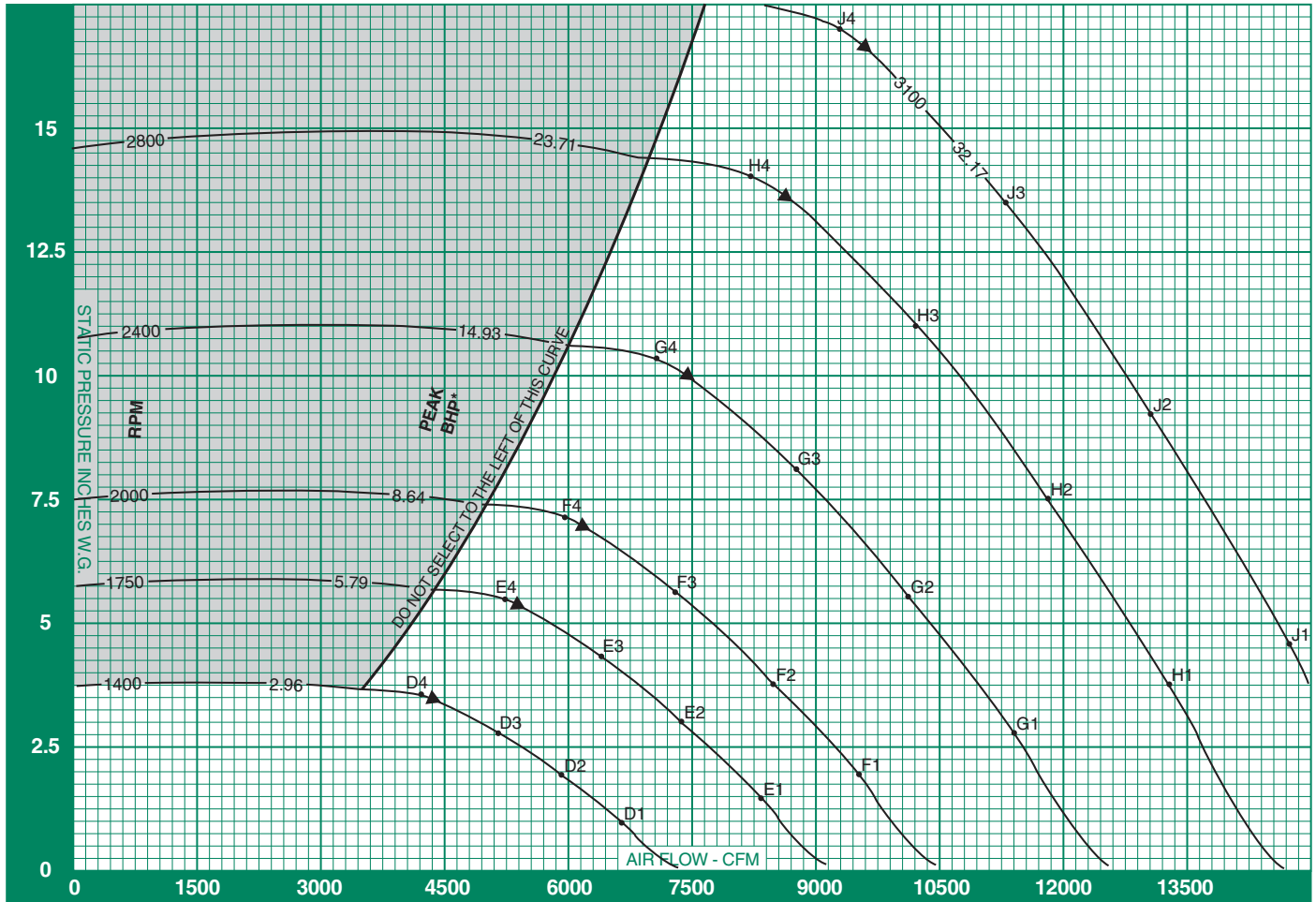
CFM	OV	9.00" SP RPM BHP	10.00" SP RPM BHP	11.00" SP RPM BHP	12.00" SP RPM BHP	13.00" SP RPM BHP	14.00" SP RPM BHP	15.00" SP RPM BHP	16.00" SP RPM BHP	17.00" SP RPM BHP
6806	2500	2264 11.98	2363 13.43	2465 14.99	2568 16.67	2666 18.38				
7078	2600	2284 12.42	2380 13.87	2475 15.38	2573 17.04	2672 18.78	2767 20.57			
7351	2700	2312 12.99	2398 14.33	2492 15.87	2582 17.44	2678 19.19	2773 21.00	2865 22.85	2954 24.74	
7623	2800	2341 13.58	2424 14.92	2509 16.37	2599 17.98	2686 19.61	2779 21.43	2871 23.31	2960 25.23	3046 27.19
7895	2900	2370 14.19	2453 15.57	2532 16.96	2617 18.52	2703 20.19	2786 21.88	2877 23.78	2966 25.72	3052 27.71
8167	3000	2402 14.82	2482 16.23	2561 17.66	2636 19.11	2720 20.77	2803 22.50	2883 24.25	2971 26.22	3057 28.23
8440	3100	2434 15.47	2511 16.92	2589 18.38	2665 19.87	2738 21.37	2821 23.13	2901 24.92	2978 26.73	3063 28.75
8712	3200	2467 16.15	2544 17.63	2618 19.13	2693 20.65	2766 22.18	2838 23.77	2918 25.59	2996 27.44	3071 29.31
8984	3300	2500 16.85	2576 18.36	2650 19.89	2722 21.45	2795 23.02	2865 24.61	2936 26.28	3013 28.16	3088 30.06
9256	3400	2534 17.56	2609 19.12	2682 20.69	2752 22.27	2823 23.88	2893 25.50	2961 27.14	3031 28.89	3105 30.83
9529	3500	2570 18.27	2642 19.90	2715 21.50	2785 23.12	2852 24.76	2922 26.42	2989 28.09	3054 29.78	3123 31.61
9801	3600	2606 19.01	2677 20.69	2748 22.35	2817 24.00	2885 25.67	2951 27.37	3018 29.07	3083 30.80	3146 32.54
10073	3700	2643 19.77	2713 21.48	2781 23.22	2850 24.91	2917 26.61	2982 28.34	3047 30.08	3112 31.84	
10345	3800	2680 20.56	2749 22.30	2816 24.08	2883 25.84	2950 27.58	3014 29.34	3077 31.11	3140 32.91	
10618	3900	2719 21.39	2786 23.15	2853 24.96	2917 26.79	2983 28.57	3047 30.36	3109 32.17		

Performance shown is for installation type B & D - Free or ducted inlet, Ducted outlet. Underlined ratings indicate maximum static efficiency. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. NOTE: Ratings shown apply also to model QBCA.



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-222 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
1400	0.94	D1	85	86	92	84	79	76	70	63	2400	2.76	G1	94	100	101	103	95	90	86	80
	1.88	D2	84	86	89	82	78	74	68	62		5.53	G2	93	99	100	100	93	89	84	78
	2.76	D3	83	85	89	82	77	74	68	62		8.11	G3	92	98	99	100	93	88	84	78
	3.50	D4	81	84	89	80	76	73	67	61		10.29	G4	90	97	99	99	91	87	83	77
1750	1.47	E1	89	92	96	92	85	82	77	70	2800	3.76	H1	97	104	104	108	99	94	91	85
	2.94	E2	88	92	94	89	84	80	75	69		7.53	H2	96	103	103	105	97	93	89	83
	4.31	E3	87	91	93	89	83	80	75	69		11.03	H3	95	102	102	105	97	92	89	83
	5.47	E4	85	89	93	88	82	79	74	68		14.00	H4	93	100	102	105	95	91	88	82
2000	1.92	F1	91	95	98	96	89	85	81	74	3100	4.61	J1	99	106	106	110	103	97	94	88
	3.84	F2	90	95	96	94	88	84	79	73		9.23	J2	98	105	106	107	100	96	92	86
	5.63	F3	89	94	96	94	87	83	79	73		13.52	J3	97	104	105	107	100	95	92	86
	7.14	F4	87	92	95	93	86	82	78	72		17.00	J4	95	102	104	107	99	94	91	85

# BCA-245

## SINGLE WIDTH

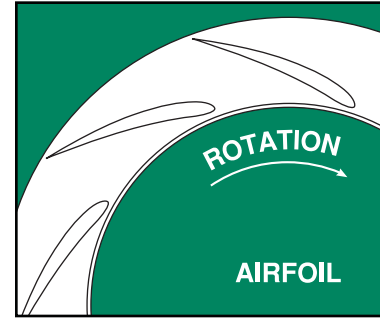
WHEEL DIAMETER: 24.50"  
 WHEEL CIRCUMFERENCE: 6.41'  
 OUTLET AREA: 3.304 SQ. FT.  
 OUTLET SIZE: 19<sup>7</sup>/<sub>16</sub>" x 24<sup>1</sup>/<sub>2</sub>"  
 INLET DIAMETER: 26<sup>1</sup>/<sub>2</sub>" O.D.



CLASS 1	CLASS 2	CLASS 3	
<b>MAX SPEEDS</b>	<b>CLASS 1</b>	<b>CLASS 2</b>	<b>CLASS 3</b>
UP TO 250°F	1745	2278	2837
251°F TO 400°F*	1658	2164	2695
401°F TO 700°F*	1431	1868	2326
ABOVE 700°F	CONTACT FACTORY		

\*SPECIAL HI-TEMP CONSTRUCTION REQUIRED

TIP SPEED (FPM) = 6.41 x RPM      MAX BHP = 1.748 x (RPM/1000)<sup>3</sup>



CFM	OV	2.50" SP RPM BHP	3.00" SP RPM BHP	3.50" SP RPM BHP						
2310	700									
2640	800									
2970	900									
3301	1000									
3631	1100									
3961	1200									
4291	1300									
4621	1400									
4951	1500									
5281	1600									
5611	1700			1314	3.86					
5941	1800			1340	4.15					
6272	1900		1309	3.92	1369	4.45				
6602	2000		1341	4.20	1398	4.76				
6932	2100	1318	3.93	1374	4.50	1429	5.10			

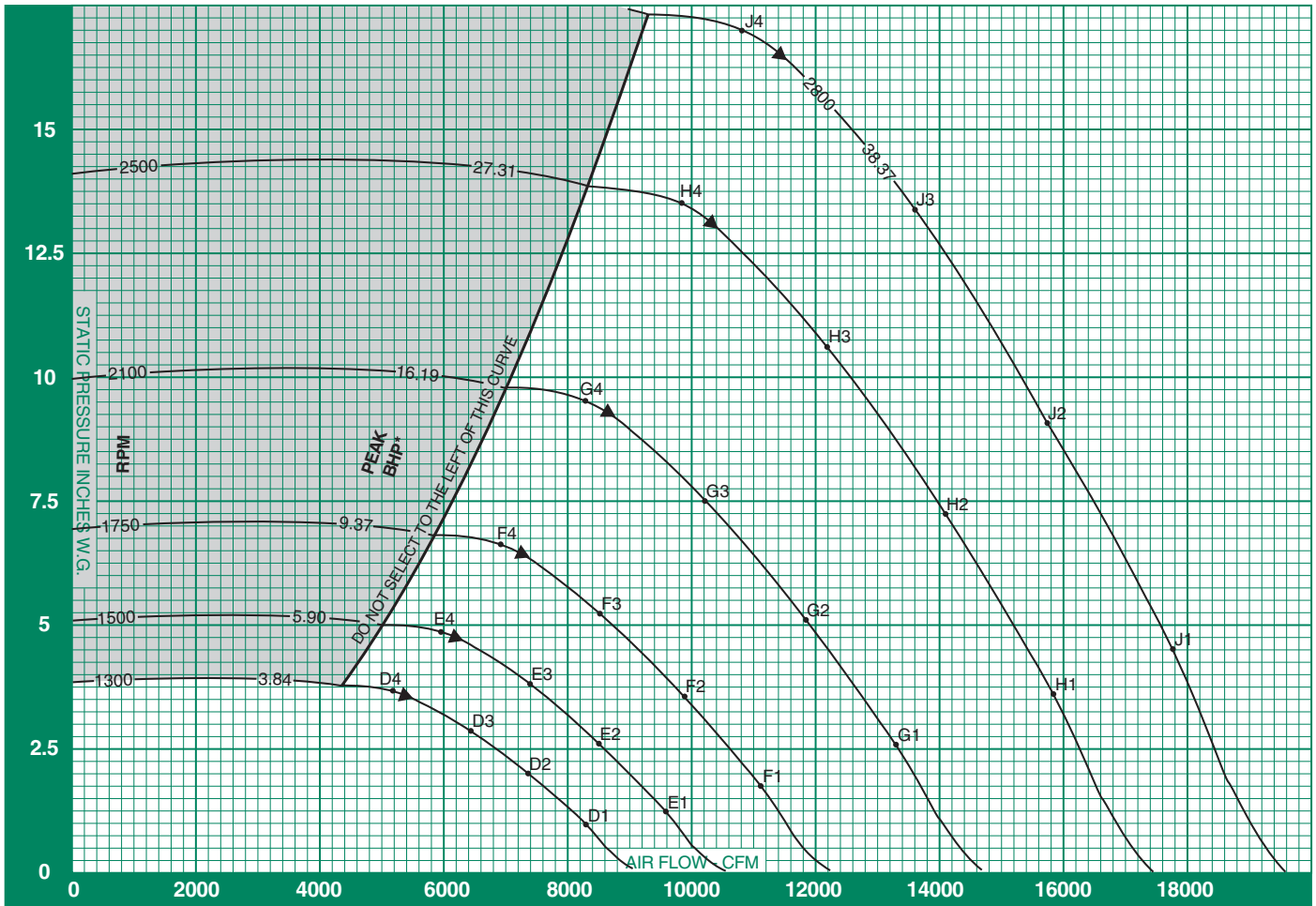
CFM	OV	4.00" SP RPM BHP	4.50" SP RPM BHP	5.00" SP RPM BHP	5.50" SP RPM BHP	6.00" SP RPM BHP	6.50" SP RPM BHP	7.00" SP RPM BHP	7.50" SP RPM BHP	8.00" SP RPM BHP
5611	1700	1376 4.38	1443 4.97	1510 5.60	1579 6.29	1645 6.99				
5941	1800	1400 4.67	<u>1459</u> <u>5.22</u>	1523 5.84	1584 6.49	1651 7.22	1714 7.96	1775 8.72		
6272	1900	1426 4.99	1482 5.54	1538 6.12	1599 6.78	1657 7.45	1719 8.20	1780 8.98	1839 9.77	
6602	2000	1454 5.32	1508 5.89	1562 6.47	<u>1615</u> <u>7.08</u>	1672 7.77	1728 8.48	1786 9.24	1845 10.05	1902 10.88
6932	2100	1484 5.68	1536 6.27	1588 6.87	1639 7.48	<u>1688</u> <u>8.11</u>	1744 8.83	1797 9.56	1850 10.33	1907 11.17
7262	2200	1513 6.05	1565 6.66	1615 7.29	1665 7.92	1713 8.55	<u>1760</u> <u>9.20</u>	1813 9.95	1864 10.71	1914 11.49
7592	2300	1545 6.43	1595 7.08	1644 7.72	1692 8.37	1739 9.03	1786 9.70	<u>1831</u> <u>10.37</u>	<u>1880</u> <u>11.13</u>	1930 11.92
7922	2400	1578 6.83	1626 7.51	1674 8.18	1721 8.85	1766 9.53	1812 10.21	1857 10.91	1900 11.61	<u>1945</u> <u>12.37</u>
8252	2500	1611 7.24	1659 7.94	1704 8.65	1751 9.34	1796 10.04	1839 10.75	1883 11.47	1926 12.19	1968 12.92
8582	2600	1646 7.68	1692 8.40	1737 9.13	1781 9.87	1825 10.59	1868 11.31	1910 12.05	1952 12.79	1994 13.54
8912	2700	1682 8.15	1726 8.88	1770 9.63	1813 10.39	1855 11.15	1898 11.90	1939 12.66	1980 13.42	2020 14.19
9243	2800	1719 8.64	1761 9.39	1803 10.15	1846 10.93	1887 11.72	1928 12.51	1969 13.29	2009 14.07	2048 14.86
9573	2900	1755 9.16	1797 9.92	1838 10.70	1879 11.49	1920 12.31	1959 13.13	1999 13.94	2039 14.75	2077 15.56
9903	3000	1793 9.70	1834 10.48	1874 11.28	1913 12.09	1953 12.92	1992 13.76	2030 14.61	2069 15.45	2107 16.28
10233	3100	1831 10.26	1871 11.07	1910 11.89	1949 12.71	1986 13.55	2025 14.41	2063 15.28	2100 16.17	2137 17.03
10563	3200	1869 10.85	1908 11.68	1947 12.52	1985 13.37	2022 14.22	2058 15.09	2096 15.98	2132 16.89	2168 17.80
10893	3300	1908 11.47	1946 12.32	1984 13.18	2021 14.05	2058 14.93	2094 15.81	2129 16.71	2165 17.63	2201 18.56
11223	3400	1946 12.11	1985 12.98	2022 13.87	2058 14.76	2094 15.66	2129 16.56	2164 17.48	2199 18.41	2234 19.36
11553	3500	1986 12.79	2023 13.68	2060 14.58	2096 15.50	2131 16.42	2166 17.34	2200 18.28	2233 19.22	2267 20.18
11883	3600	2026 13.51	2062 14.41	2098 15.33	2134 16.26	2168 17.21	2202 18.16	2236 19.11	2269 20.07	2301 21.04

CFM	OV	9.00" SP RPM BHP	10.00" SP RPM BHP	11.00" SP RPM BHP	12.00" SP RPM BHP	13.00" SP RPM BHP	14.00" SP RPM BHP	15.00" SP RPM BHP	16.00" SP RPM BHP	17.00" SP RPM BHP
8252	2500	2056 14.53	2146 16.28	2238 18.17	2332 20.21	2422 22.29				
8582	2600	<u>2074</u> <u>15.06</u>	2162 16.82	2247 18.65	2337 20.66	2427 22.77	2513 24.94			
8912	2700	2100 15.75	<u>2178</u> <u>17.38</u>	2263 19.24	2345 21.15	2432 23.26	2519 25.46	2602 27.71	2683 30.00	
9243	2800	2126 16.47	2202 18.09	<u>2279</u> <u>19.85</u>	2361 21.80	2439 23.78	2524 25.99	2607 28.27	2688 30.59	2766 32.96
9573	2900	2152 17.20	2227 18.87	2300 20.57	2376 22.46	2455 24.47	2530 26.53	2613 28.83	2693 31.19	2771 33.59
9903	3000	2181 17.97	2254 19.68	2325 21.41	<u>2394</u> <u>23.17</u>	2471 25.19	2546 27.28	2619 29.41	2699 31.79	2777 34.23
10233	3100	2211 18.76	2281 20.51	2351 22.29	2420 24.09	<u>2486</u> <u>25.91</u>	2562 28.05	2634 30.21	2705 32.41	2782 34.86
10563	3200	2240 19.58	2310 21.37	2378 23.19	2446 25.03	2512 26.89	<u>2578</u> <u>28.83</u>	2650 31.03	2720 33.27	2789 35.54
10893	3300	2270 20.43	2340 22.26	2406 24.12	2472 26.00	2538 27.91	2602 29.83	<u>2666</u> <u>31.87</u>	2736 34.14	2804 36.45
11223	3400	2301 21.29	2369 23.18	2436 25.08	2500 27.01	2564 28.95	2627 30.92	2689 32.91	<u>2752</u> <u>35.03</u>	2820 37.38
11553	3500	2334 22.15	2400 24.13	2465 26.07	2529 28.04	2590 30.03	2653 32.03	2715 34.06	2774 36.11	<u>2836</u> <u>38.32</u>
11883	3600	2367 23.04	2431 25.08	2495 27.09	2559 29.10	2620 31.13	2680 33.18	2741 35.25	2800 37.34	2857 39.45
12214	3700	2400 23.97	2464 26.05	2525 28.15	2588 30.20	2649 32.27	2708 34.36	2767 36.47	2826 38.60	
12544	3800	2434 24.93	2497 27.04	2558 29.19	2618 31.33	2679 33.44	2737 35.57	2794 37.72	2852 39.90	
12874	3900	2470 25.93	2530 28.07	2591 30.26	2649 32.48	2709 34.64	2767 36.82	2824 39.01		

Performance shown is for installation type B & D - Free or ducted inlet, Ducted outlet. Underlined ratings indicate maximum static efficiency. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. NOTE: Ratings shown apply also to model QBCA.

# CONSTANT SPEED PERFORMANCE CURVES

# BCA-245 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
1300	0.98	D1	87	88	93	85	80	75	71	64	2100	2.57	G1	96	100	102	101	94	90	85	79
	1.97	D2	85	87	90	83	78	75	69	63		5.13	G2	95	99	101	98	92	88	83	77
	2.88	D3	85	87	90	83	78	75	69	63		7.53	G3	94	98	100	98	92	88	83	77
	3.66	D4	83	86	89	81	77	74	68	62		9.55	G4	92	97	99	98	90	87	82	76
1500	1.31	E1	90	91	96	89	84	81	75	68	2500	3.64	H1	95	105	105	107	99	94	91	84
	2.62	E2	89	91	94	87	83	79	73	67		7.27	H2	95	104	104	104	97	93	89	83
	3.84	E3	88	90	93	87	82	79	73	67		10.66	H3	97	103	103	104	97	92	89	83
	4.87	E4	86	89	93	85	81	78	72	66		13.54	H4	95	101	103	104	95	91	88	82
1750	1.78	F1	92	95	99	95	88	85	80	73	2800	4.56	J1	101	107	107	111	102	97	94	88
	3.56	F2	91	95	97	92	87	83	78	72		9.13	J2	100	106	107	108	100	96	92	86
	5.23	F3	90	94	96	92	86	83	78	72		13.38	J3	99	105	106	108	100	95	92	86
	6.63	F4	88	93	96	91	85	82	77	71		16.98	J4	97	103	105	108	98	94	91	85

# BCA-270

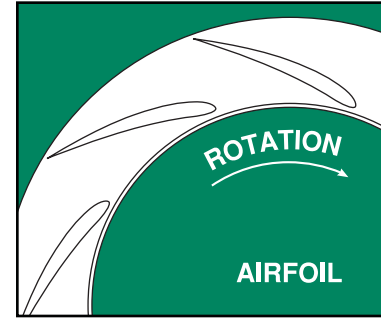
## SINGLE WIDTH

WHEEL DIAMETER: 27.00"  
 WHEEL CIRCUMFERENCE: 7.10'  
 OUTLET AREA: 4.016 SQ. FT.  
 OUTLET SIZE: 21<sup>1</sup>/<sub>16</sub>" x 27"  
 INLET DIAMETER: 28<sup>1</sup>/<sub>2</sub>" O.D.



<b>CLASS 1</b>	<b>CLASS 2</b>	<b>CLASS 3</b>	
<b>MAX SPEEDS</b>	<b>CLASS 1</b>	<b>CLASS 2</b>	<b>CLASS 3</b>
UP TO 250°F	1584	2067	2574
251°F TO 400°F*	1505	1964	2445
401°F TO 700°F*	1299	1695	2111
ABOVE 700°F	CONTACT FACTORY		

\*SPECIAL HI-TEMP CONSTRUCTION REQUIRED  
 TIP SPEED (FPM) = 7.10 x RPM    MAX BHP = 2.842 x (RPM/1000)<sup>3</sup>



CFM	OV	1.00" SP RPM BHP	1.50" SP RPM BHP	2.00" SP RPM BHP	2.50" SP RPM BHP	3.00" SP RPM BHP	3.50" SP RPM BHP
2806	700						
3207	800						
3608	900						
4009	1000						
4410	1100						
4811	1200					1056 3.00	
5211	1300					1060 3.14	1140 3.79
5612	1400				999 2.75	1071 3.31	1145 3.95
6013	1500				1022 2.99	1086 3.52	1155 4.14
6414	1600				1048 3.24	1110 3.80	1169 4.38
6815	1700			1013 2.94	1075 3.52	1134 4.10	1192 4.69
7216	1800			1044 3.19	1103 3.81	1161 4.42	1216 5.04
7617	1900		1018 2.87	1076 3.47	1133 4.11	1188 4.76	1242 5.40
8018	2000		1053 3.14	1109 3.77	1163 4.42	1217 5.10	1269 5.78
8419	2100	1030 2.80	1088 3.43	1143 4.09	1196 4.77	1247 5.47	1296 6.19

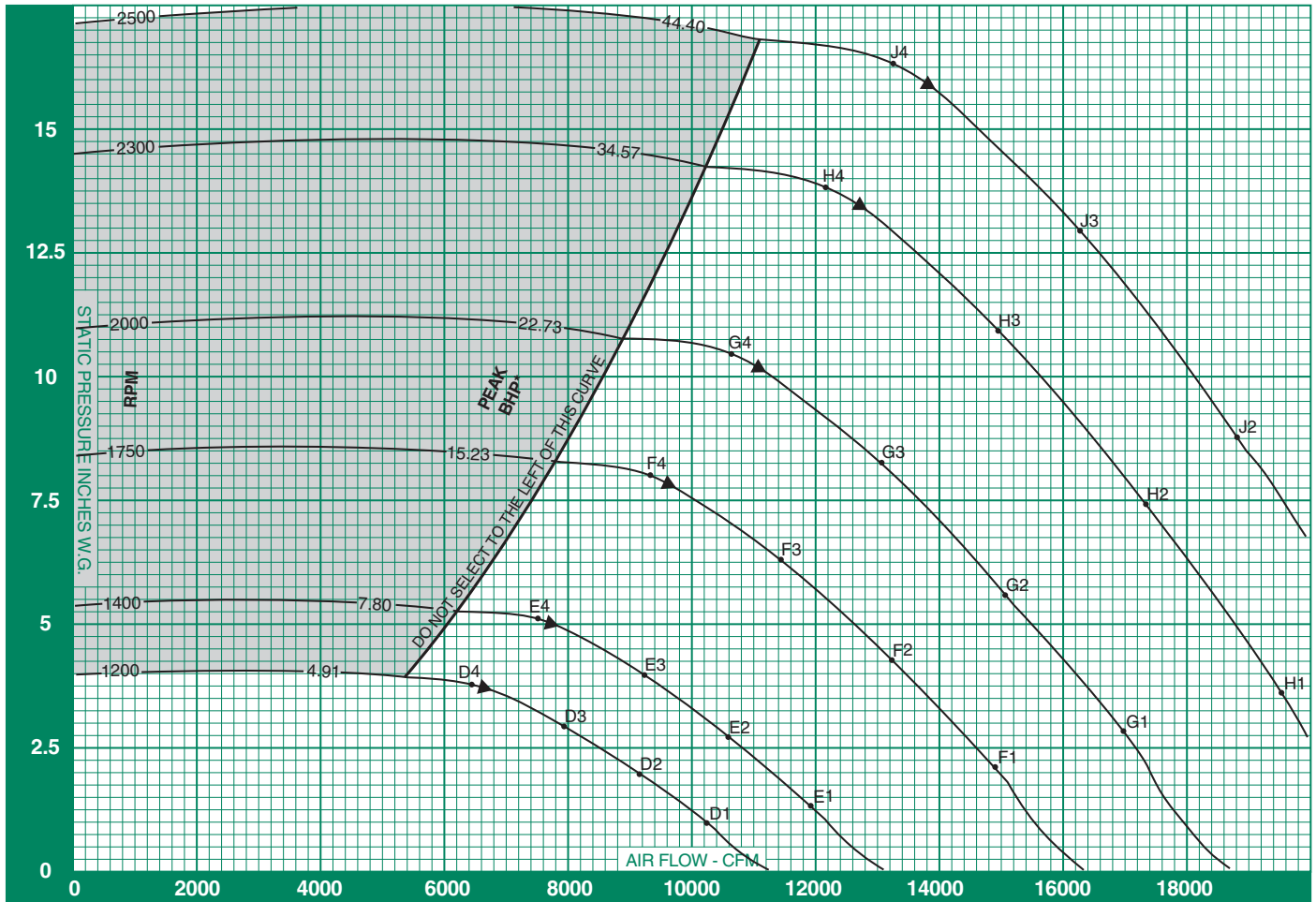
CFM	OV	4.00" SP RPM BHP	4.50" SP RPM BHP	5.00" SP RPM BHP	5.50" SP RPM BHP	6.00" SP RPM BHP	6.50" SP RPM BHP	7.00" SP RPM BHP	7.50" SP RPM BHP	8.00" SP RPM BHP
6815	1700	1249 5.32	1310 6.04	1370 6.80	1433 7.63	1493 8.49				
7216	1800	1270 5.67	1324 6.34	1382 7.10	1438 7.88	1498 8.76	1555 9.67	1611 10.59		
7617	1900	1294 6.06	1345 6.73	1396 7.43	1451 8.23	1503 9.05	1560 9.96	1616 10.90	1669 11.87	
8018	2000	1319 6.47	1369 7.16	1417 7.86	1465 8.60	1517 9.44	1568 10.29	1620 11.22	1674 12.21	1726 13.21
8419	2100	1346 6.90	1394 7.61	1441 8.34	1487 9.08	1532 9.84	1582 10.72	1630 11.62	1679 12.55	1730 13.57
8820	2200	1373 7.35	1420 8.09	1466 8.85	1511 9.61	1555 10.39	1597 11.17	1645 12.08	1691 13.01	1737 13.96
9221	2300	1402 7.81	1448 8.60	1492 9.38	1535 10.17	1578 10.97	1621 11.78	1661 12.59	1706 13.51	1751 14.48
9622	2400	1432 8.29	1475 9.12	1519 9.93	1562 10.74	1603 11.57	1644 12.40	1685 13.25	1724 14.10	1765 15.02
10022	2500	1462 8.80	1505 9.65	1546 10.51	1589 11.35	1629 12.20	1669 13.06	1709 13.93	1748 14.81	1786 15.69
10423	2600	1494 9.33	1535 10.20	1576 11.09	1616 11.98	1656 12.86	1695 13.74	1733 14.64	1771 15.54	1809 16.45
10824	2700	1527 9.90	1566 10.78	1606 11.69	1645 12.62	1684 13.54	1722 14.45	1760 15.37	1796 16.30	1833 17.24
11225	2800	1559 10.50	1598 11.40	1636 12.32	1675 13.27	1712 14.24	1749 15.19	1787 16.14	1823 17.09	1858 18.05
11626	2900	1593 11.12	1631 12.05	1668 12.99	1705 13.96	1742 14.95	1778 15.95	1814 16.93	1850 17.91	1885 18.90
12027	3000	1627 11.78	1664 12.73	1701 13.70	1736 14.68	1772 15.69	1808 16.71	1842 17.74	1877 18.76	1912 19.77
12428	3100	1661 12.46	1698 13.45	1733 14.44	1768 15.44	1802 16.46	1838 17.50	1872 18.56	1905 19.63	1939 20.69
12829	3200	1696 13.18	1732 14.19	1767 15.21	1801 16.24	1835 17.28	1868 18.33	1902 19.41	1935 20.51	1967 21.61
13230	3300	1731 13.93	1766 14.96	1800 16.01	1834 17.06	1867 18.13	1900 19.20	1932 20.30	1965 21.42	1997 22.55
13631	3400	1766 14.71	1801 15.77	1835 16.84	1867 17.93	1900 19.02	1932 20.12	1963 21.23	1995 22.36	2027 23.51
14032	3500	1802 15.54	1836 16.61	1869 17.71	1902 18.82	1933 19.94	1965 21.06	1996 22.20	2026 23.34	2057 24.51
14433	3600	1838 16.40	1871 17.50	1904 18.62	1936 19.75	1967 20.90	1998 22.05	2029 23.21	2059 24.38	2088 25.56

CFM	OV	9.00" SP RPM BHP	10.00" SP RPM BHP	11.00" SP RPM BHP	12.00" SP RPM BHP	13.00" SP RPM BHP	14.00" SP RPM BHP	15.00" SP RPM BHP	16.00" SP RPM BHP	17.00" SP RPM BHP
10022	2500	1866 17.64	1947 19.77	2031 22.07	2116 24.54	2197 27.07				
10423	2600	1882 18.30	1962 20.43	2039 22.65	2121 25.09	2202 27.66	2281 30.29			
10824	2700	1905 19.13	1976 21.10	2054 23.37	2128 25.69	2207 28.25	2285 30.92	2361 33.65	2434 36.44	
11225	2800	1929 20.00	1998 21.98	2068 24.11	2142 26.47	2213 28.88	2290 31.56	2366 34.33	2439 37.15	2510 40.03
11626	2900	1953 20.89	2021 22.92	2087 24.98	2156 27.27	2227 29.72	2296 32.22	2371 35.01	2444 37.88	2515 40.80
12027	3000	1979 21.82	2045 23.90	2110 26.01	2173 28.14	2242 30.59	2310 33.13	2376 35.72	2449 38.61	2520 41.57
12428	3100	2006 22.78	2070 24.91	2134 27.07	2196 29.26	2256 31.47	2324 34.06	2390 36.69	2454 39.36	2524 42.34
12829	3200	2033 23.78	2096 25.96	2158 28.17	2220 30.40	2279 32.66	2339 35.01	2405 37.69	2469 40.40	2530 43.16
13230	3300	2060 24.81	2123 27.04	2184 29.29	2243 31.58	2303 33.89	2361 36.23	2419 38.70	2483 41.47	2545 44.27
13631	3400	2088 25.85	2150 28.15	2210 30.46	2268 32.80	2327 35.16	2384 37.55	2440 39.96	2497 42.54	2559 45.39
14032	3500	2118 26.90	2177 29.31	2237 31.66	2295 34.05	2351 36.47	2408 38.90	2463 41.37	2517 43.86	2574 46.54
14433	3600	2148 27.99	2206 30.46	2264 32.91	2322 35.34	2377 37.81	2432 40.30	2487 42.81	2541 45.35	2593 47.91
14833	3700	2178 29.11	2236 31.63	2292 34.19	2349 36.67	2404 39.19	2457 41.73	2511 44.29	2564 46.88	
15234	3800	2208 30.27	2266 32.84	2321 35.45	2376 38.05	2431 40.61	2484 43.20	2536 45.82	2588 48.46	
15635	3900	2241 31.50	2296 34.09	2351 36.75	2404 39.44	2458 42.07	2511 44.71	2562 47.38		

Performance shown is for installation type B & D - Free or ducted inlet, Ducted outlet. Underlined ratings indicate maximum static efficiency. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. NOTE: Ratings shown apply also to model QBCA.

# CONSTANT SPEED PERFORMANCE CURVES

# BCA-270 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

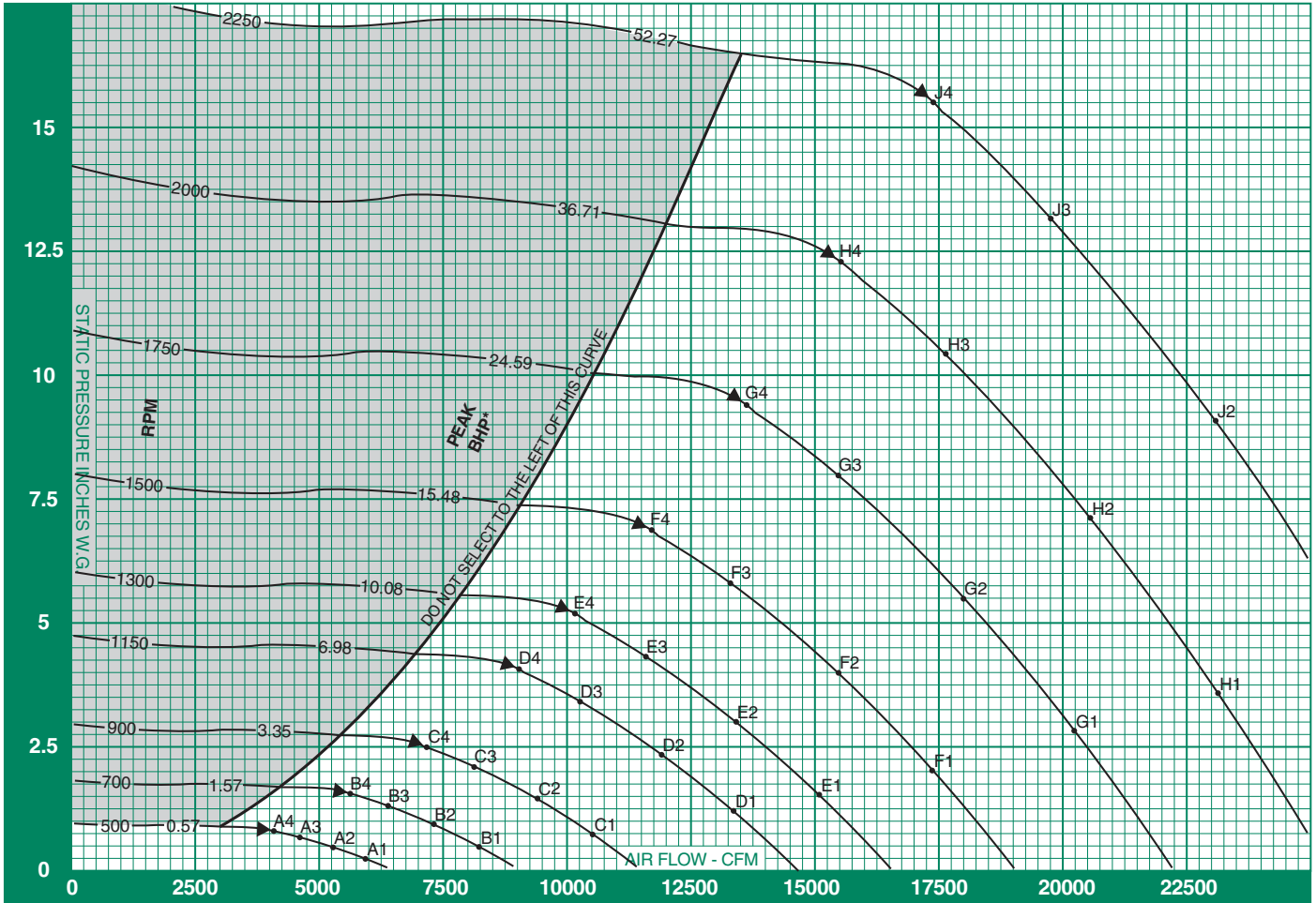
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
1200	1.02	D1	88	90	93	85	81	77	71	64	2000	2.83	G1	98	102	104	102	95	91	87	80
	2.04	D2	87	90	90	84	80	75	69	63		5.65	G2	97	102	103	100	94	90	85	79
	2.98	D3	86	89	90	83	79	75	69	63		8.29	G3	96	101	102	100	93	89	85	79
	3.79	D4	85	88	90	82	78	74	68	62		10.52	G4	94	99	102	99	92	88	84	78
1400	1.39	E1	92	93	98	90	85	82	76	69	2300	3.74	H1	101	106	107	107	99	95	91	85
	2.77	E2	91	93	95	88	84	80	74	68		7.48	H2	100	105	106	104	98	94	89	83
	4.06	E3	90	92	95	88	83	80	74	68		10.96	H3	99	104	105	104	97	93	89	83
	5.16	E4	88	91	95	86	82	79	73	67		13.91	H4	97	102	104	104	96	92	88	82
1750	2.16	F1	96	99	102	98	91	88	83	76	2500	4.42	J1	102	108	108	110	102	97	93	87
	4.33	F2	95	98	100	95	90	86	81	75		8.84	J2	101	107	107	107	100	96	91	85
	6.35	F3	94	97	100	95	89	86	81	75		12.95	J3	100	106	107	107	100	95	91	85
	8.05	F4	92	96	99	94	88	85	80	74		16.44	J4	98	104	106	107	98	94	90	84



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-300 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

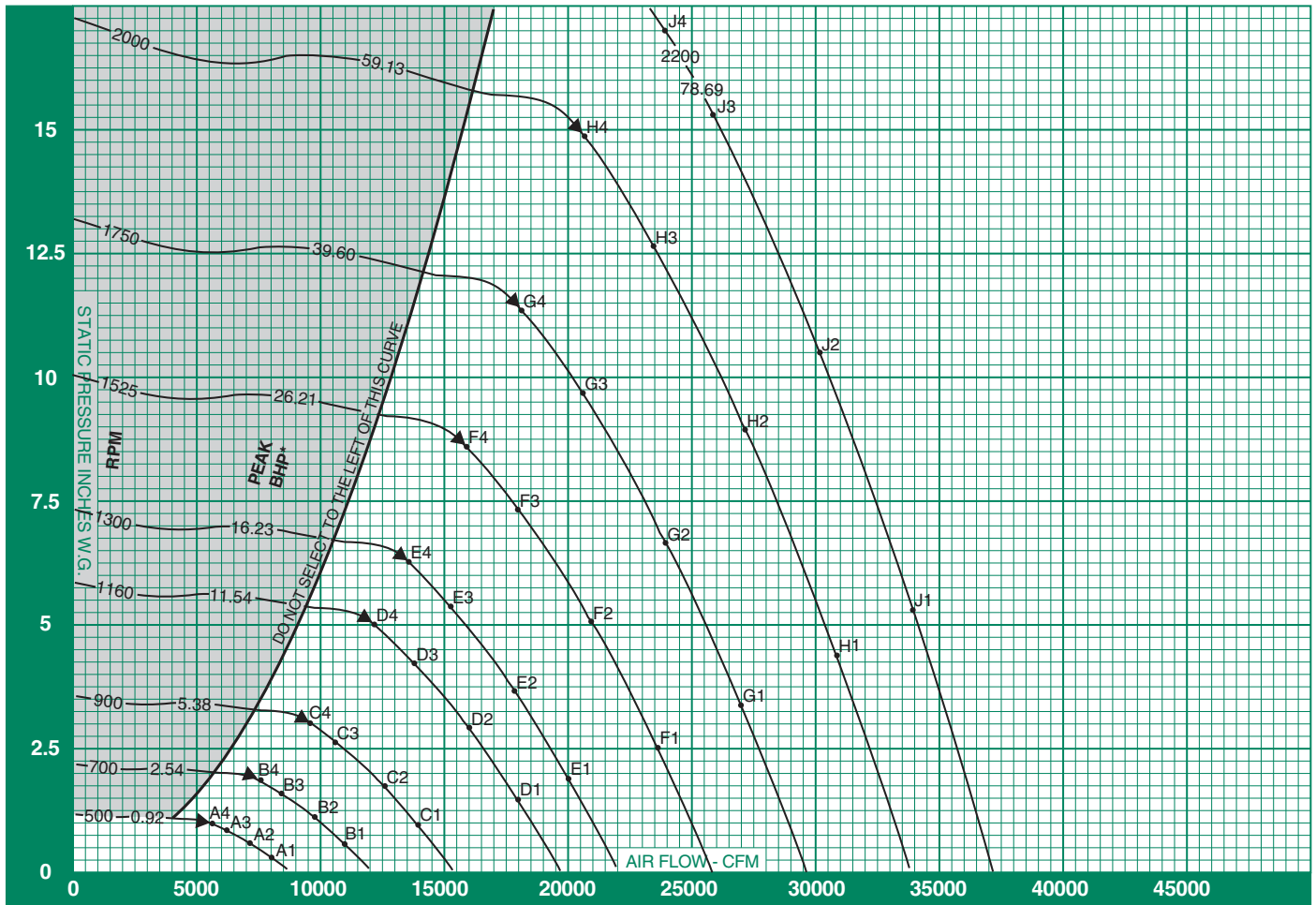
FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
500	0.25	A1	67	64	63	61	57	53	50	47	
	0.45	A2	66	62	60	58	54	51	48	44	
	0.65	A3	62	60	59	57	54	51	47	43	
	0.77	A4	62	59	59	58	54	50	46	41	
700	0.44	B1	71	77	71	70	66	62	59	55	
	0.88	B2	70	76	68	67	63	60	57	53	
	1.28	B3	67	72	67	66	63	60	56	52	
	1.50	B4	68	72	66	66	64	59	55	51	
900	0.73	C1	74	84	77	76	73	69	65	62	
	1.45	C2	73	84	75	73	70	67	63	60	
	2.12	C3	72	79	73	72	70	66	63	59	
	2.49	C4	72	79	72	72	70	66	62	58	
1150	1.19	D1	85	87	86	82	80	76	72	69	
	2.38	D2	85	86	84	79	77	73	70	66	
	3.45	D3	84	83	81	78	76	73	69	66	
	4.06	D4	83	83	81	77	76	73	69	65	
1300	1.52	E1	90	88	91	85	83	79	75	72	
	3.04	E2	91	87	89	82	80	76	73	70	
	1750	2.75	G1	104	91	101	91	91	88	83	80
		5.50	G2	105	91	100	89	87	85	81	78
8.00		G3	104	89	95	87	87	84	81	77	
9.40		G4	102	90	96	87	86	85	81	76	
2000	3.59	H1	106	97	102	96	94	91	87	83	
	7.18	H2	107	97	102	94	91	88	84	81	
	10.45	H3	106	96	97	92	90	88	84	81	
	12.28	H4	104	96	98	92	89	88	84	80	
2250	4.55	J1	108	103	103	101	96	94	90	86	
	9.09	J2	109	102	103	99	93	91	88	84	
	13.22	J3	108	101	99	96	92	91	87	84	
	15.54	J4	106	101	100	96	92	91	88	83	





# CONSTANT SPEED PERFORMANCE CURVES

# BCA-330 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

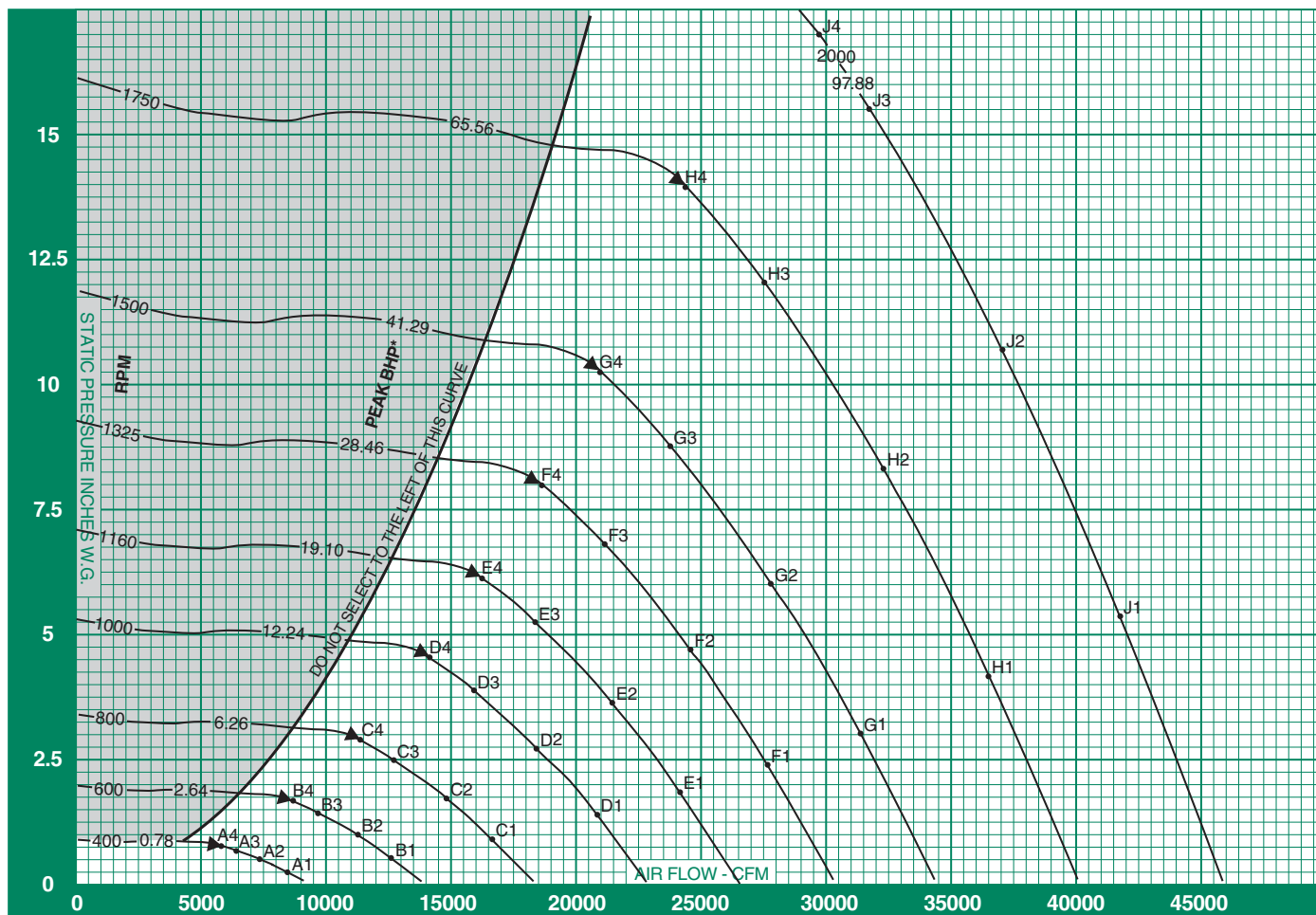
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
500	0.27	A1	70	67	66	64	60	56	53	49	1300	5.34	E3	93	88	89	83	82	79	76	72	
	0.54	A2	70	65	63	61	57	54	51	47		6.28	E4	92	88	89	83	82	79	75	71	
	0.79	A3	66	63	62	60	57	53	50	46		1525	2.53	F1	101	93	100	91	90	87	82	79
	0.93	A4	66	63	62	61	57	53	48	44			5.05	F2	102	92	99	89	87	84	80	77
700	0.53	B1	74	80	74	73	69	65	62	58	1750	7.35	F3	101	90	94	87	86	83	80	76	
	1.06	B2	73	79	71	70	66	63	59	56		8.64	F4	99	91	95	87	86	84	80	75	
	1.55	B3	71	75	70	69	66	63	59	55		2000	3.33	G1	107	95	104	94	93	91	86	83
	1.82	B4	71	75	69	69	66	62	58	53			6.65	G2	108	94	103	92	90	87	84	80
900	0.88	C1	77	87	80	79	76	72	68	65	2200	9.68	G3	107	93	98	90	89	87	84	80	
	1.76	C2	77	87	78	76	73	69	66	63		11.37	G4	105	93	99	90	89	88	84	79	
	2.56	C3	75	82	76	75	73	69	66	62		1300	4.35	H1	109	101	105	99	97	94	90	86
	3.01	C4	76	83	75	75	73	69	65	61			8.69	H2	111	100	105	97	94	91	87	84
1160	1.46	D1	89	90	89	85	83	79	75	72	2000	12.64	H3	110	99	100	95	92	90	87	84	
	2.92	D2	89	90	88	82	80	76	73	70		14.86	H4	107	99	101	95	92	91	87	83	
	4.25	D3	88	86	85	81	79	76	72	69		1300	5.26	J1	111	105	106	103	99	97	92	89
	5.00	D4	87	87	85	81	79	76	72	68			10.52	J2	112	105	106	101	96	93	90	86
1300	1.84	E1	94	91	94	88	86	82	78	75	2200	15.30	J3	111	104	102	98	95	93	90	86	
	3.67	E2	94	91	92	85	83	79	76	73		17.00	J4	109	103	102	98	94	93	90	86	



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-365 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

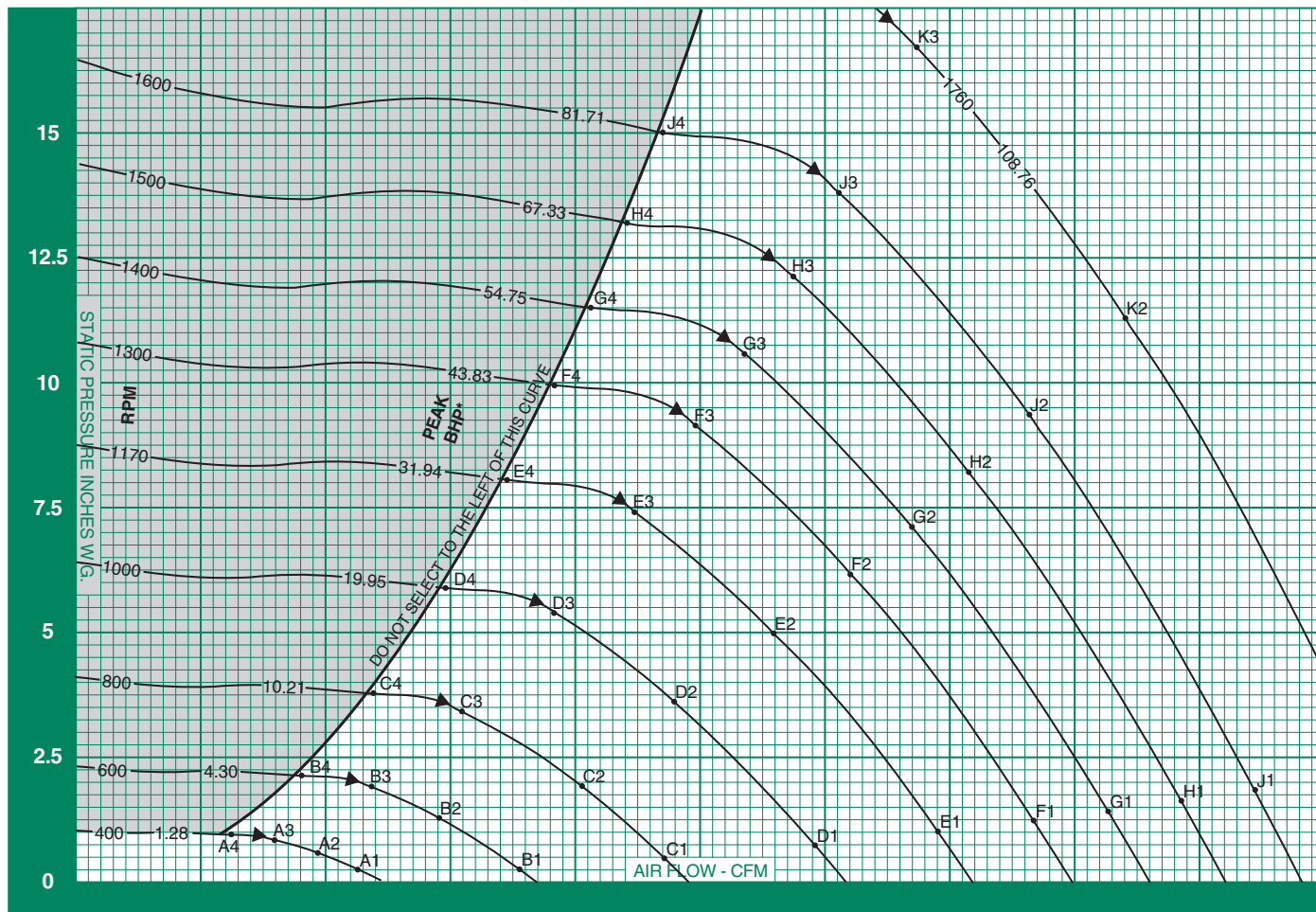
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
400	0.25	A1	70	63	63	60	56	53	50	46	1160	5.20	E3	91	90	88	84	82	79	76	72	
	0.43	A2	69	61	61	58	54	51	48	44		6.11	E4	90	90	88	84	82	79	75	71	
	0.62	A3	65	59	60	58	54	50	47	43		1325	2.33	F1	98	95	98	91	89	86	82	78
	0.73	A4	65	59	60	58	54	50	45	41			4.67	F2	99	94	96	88	86	83	79	76
600	0.48	B1	76	78	73	72	68	64	61	57	1500	6.79	F3	98	92	92	87	86	83	79	75	
	0.96	B2	75	76	71	69	65	62	58	55		7.98	F4	96	92	93	87	86	83	79	74	
	1.39	B3	72	73	69	68	65	61	58	54		1760	2.99	G1	104	96	102	94	93	89	85	82
	1.64	B4	72	73	69	68	65	61	57	52			5.98	G2	105	96	101	91	89	86	83	79
800	0.85	C1	79	88	80	79	76	72	68	65	2000	8.70	G3	104	94	97	90	89	86	82	79	
	1.70	C2	78	88	77	76	73	69	66	63		10.22	G4	102	94	97	89	89	87	82	78	
	2.47	C3	77	83	76	75	73	69	65	62		1160	4.12	H1	111	98	107	98	97	94	89	86
	2.91	C4	77	83	75	75	73	69	65	60			8.23	H2	112	97	106	95	94	91	87	84
1000	1.33	D1	86	92	87	85	82	78	74	71	1760	11.98	H3	111	96	102	93	93	90	87	83	
	2.66	D2	85	91	85	82	79	75	72	69		14.07	H4	109	97	102	93	92	91	87	82	
	3.87	D3	84	87	83	81	78	75	72	68		2000	5.32	J1	113	104	108	102	100	97	93	89
	4.54	D4	84	88	82	80	79	75	71	67			10.63	J2	114	104	108	100	97	94	90	87
1160	1.79	E1	92	94	93	88	86	82	78	75	15.47	J3	113	102	104	98	96	94	90	87		
	3.58	E2	92	93	91	85	83	79	76	73	17.00	J4	112	102	104	98	95	94	90	86		



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-402 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

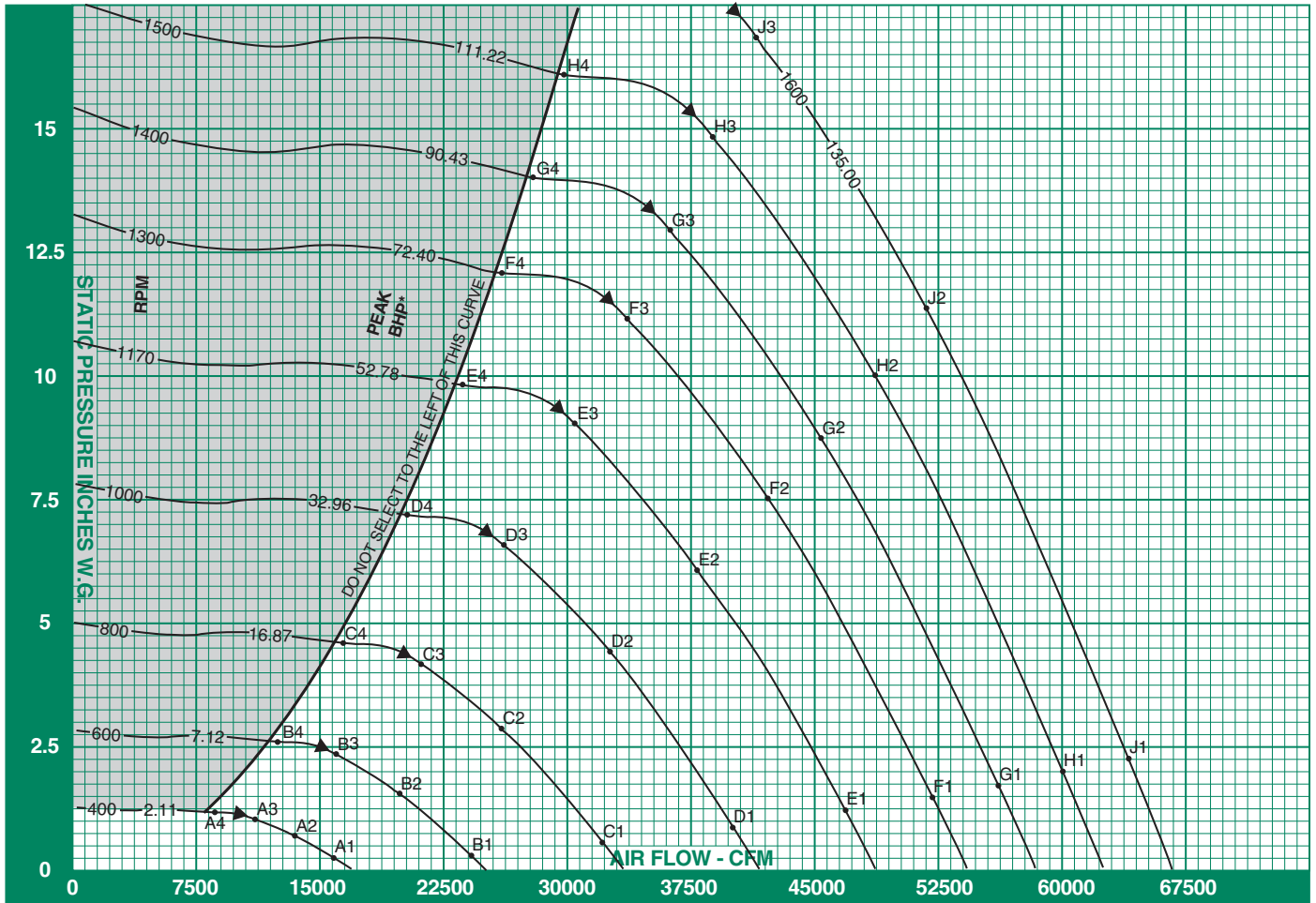
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
400	0.25	A1	80	72	74	73	64	58	53	48	1300	1.23	F1	103	109	107	100	101	98	90	83
	0.58	A2	79	69	68	67	60	55	50	45		6.16	F2	104	108	104	95	93	90	84	79
	0.86	A3	76	69	64	64	58	54	48	43		9.12	F3	105	108	102	94	90	88	83	78
	0.98	A4	74	69	63	63	57	53	47	42		10.35	F4	106	108	101	94	89	87	81	77
600	0.26	B1	89	88	83	84	80	72	66	61	1400	1.43	G1	104	110	110	102	103	100	92	86
	1.31	B2	89	85	78	76	73	67	61	56		7.15	G2	105	110	107	97	95	93	86	81
	1.94	B3	88	83	76	73	70	65	60	55		10.58	G3	106	110	105	96	91	90	85	80
	2.21	B4	88	83	76	72	69	64	59	54		12.01	G4	107	111	104	96	91	89	84	79
800	0.47	C1	94	99	89	91	90	81	74	69	1500	1.64	H1	105	111	113	103	105	103	94	88
	2.33	C2	95	97	85	83	82	75	70	65		8.20	H2	106	112	110	99	96	95	89	83
	3.45	C3	96	94	85	79	79	74	69	63		12.14	H3	107	112	108	98	93	92	87	82
	3.92	C4	97	92	85	79	78	72	68	62		13.78	H4	108	113	106	98	92	91	86	81
1000	0.73	D1	98	104	97	95	95	89	81	76	1600	1.87	J1	106	112	115	104	106	105	97	89
	3.65	D2	99	102	94	89	87	82	76	71		9.34	J2	107	113	113	101	98	97	90	85
	5.40	D3	100	100	93	86	84	80	75	70		13.82	J3	108	114	110	100	94	94	89	84
	6.13	D4	101	99	93	85	83	79	74	69		15.68	J4	110	115	108	100	94	93	87	83
1170	1.00	E1	101	107	103	98	99	94	86	80	1760	2.26	K1	108	114	118	107	108	107	100	92
	4.99	E2	102	106	100	93	91	87	81	76		11.30	K2	109	115	115	104	100	99	93	88
	7.39	E3	103	105	98	91	87	85	80	75		16.72	K3	110	116	113	103	97	96	91	87
	8.39	E4	104	105	98	90	87	84	78	74											



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-445 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

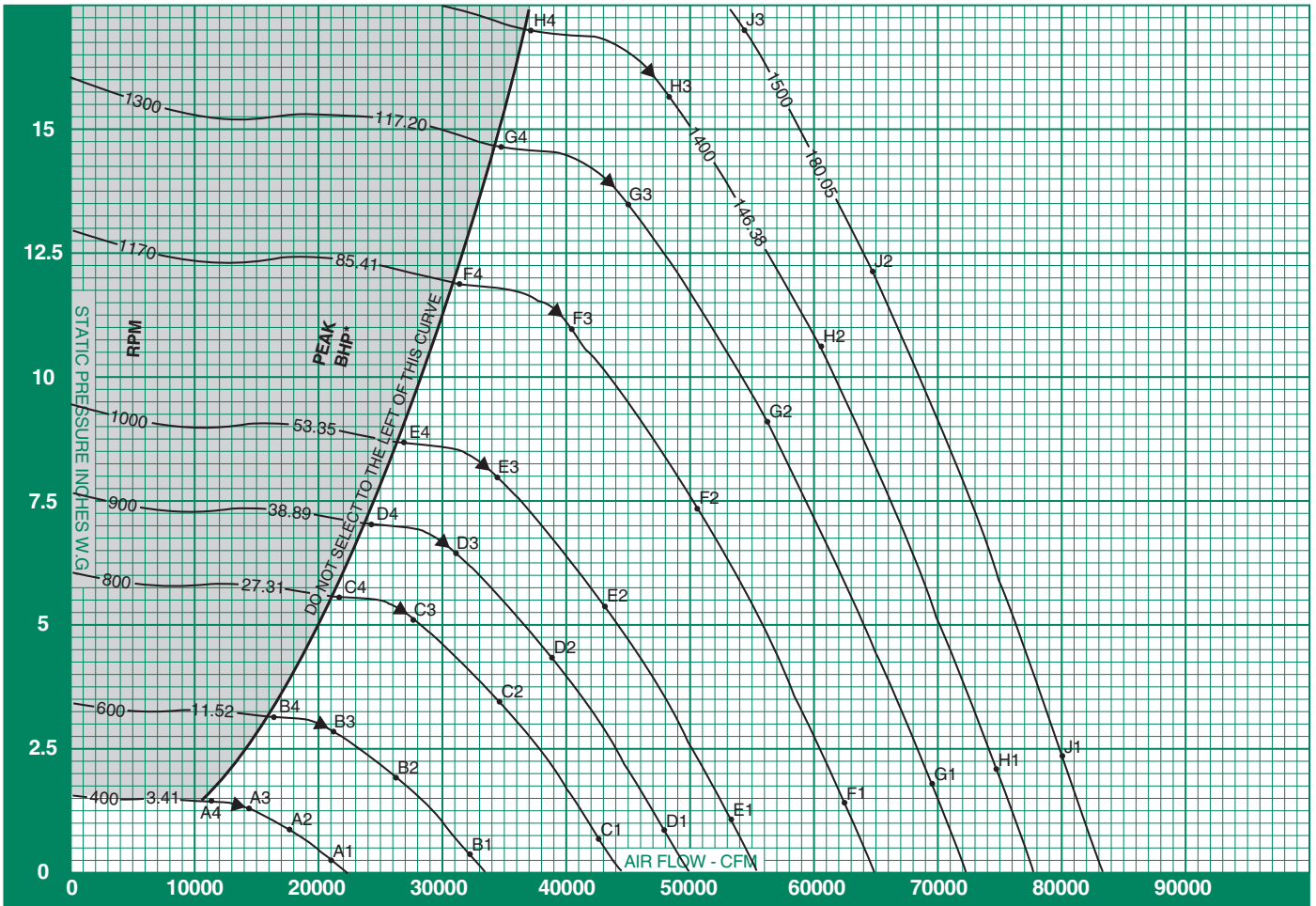
FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
400	0.25	A1	84	75	76	75	66	60	55	50	1170	9.03	E3	106	108	102	94	90	88	83	78	
	0.71	A2	82	73	71	70	63	58	53	48		10.25	E4	108	108	101	93	90	87	82	77	
	1.06	A3	80	72	67	67	61	57	51	46		1300	1.51	F1	106	112	110	103	104	101	93	86
	1.20	A4	78	72	66	66	60	56	50	45			7.53	F2	107	112	107	98	96	93	87	82
600	0.32	B1	93	91	87	88	83	75	69	64	1400	11.15	F3	108	111	105	97	93	91	86	81	
	1.60	B2	92	88	81	79	76	70	64	59		12.66	F4	109	111	104	97	92	90	85	80	
	2.37	B3	91	87	79	76	73	68	63	58		1500	1.75	G1	108	113	113	105	106	103	95	89
	2.70	B4	91	86	79	75	72	67	62	57			8.74	G2	109	113	110	100	98	96	89	84
800	0.57	C1	98	103	92	94	93	85	77	72	1600	12.93	G3	109	113	108	99	94	93	88	83	
	2.85	C2	99	100	89	86	85	78	73	68		14.68	G4	111	114	107	99	94	92	87	82	
	4.22	C3	99	97	88	83	82	77	72	67		1500	2.01	H1	109	114	116	106	108	106	98	91
	4.79	C4	101	96	88	82	81	75	71	65			10.03	H2	110	115	113	102	99	98	92	86
1000	0.89	D1	102	107	100	98	98	92	85	79	1600	14.84	H3	111	115	111	101	96	95	90	85	
	4.46	D2	103	106	97	92	90	85	79	74		16.85	H4	112	116	109	101	95	94	89	84	
	6.60	D3	104	104	96	89	87	83	78	73		1600	2.28	J1	110	115	119	107	109	108	100	92
	7.49	D4	105	103	96	88	86	82	77	72			11.41	J2	111	116	116	104	101	100	93	88
1170	1.22	E1	104	110	106	101	102	97	90	83	1600	16.89	J3	112	117	113	103	97	97	92	87	
	6.10	E2	106	109	103	96	94	90	84	79												





# CONSTANT SPEED PERFORMANCE CURVES

# BCA-490 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

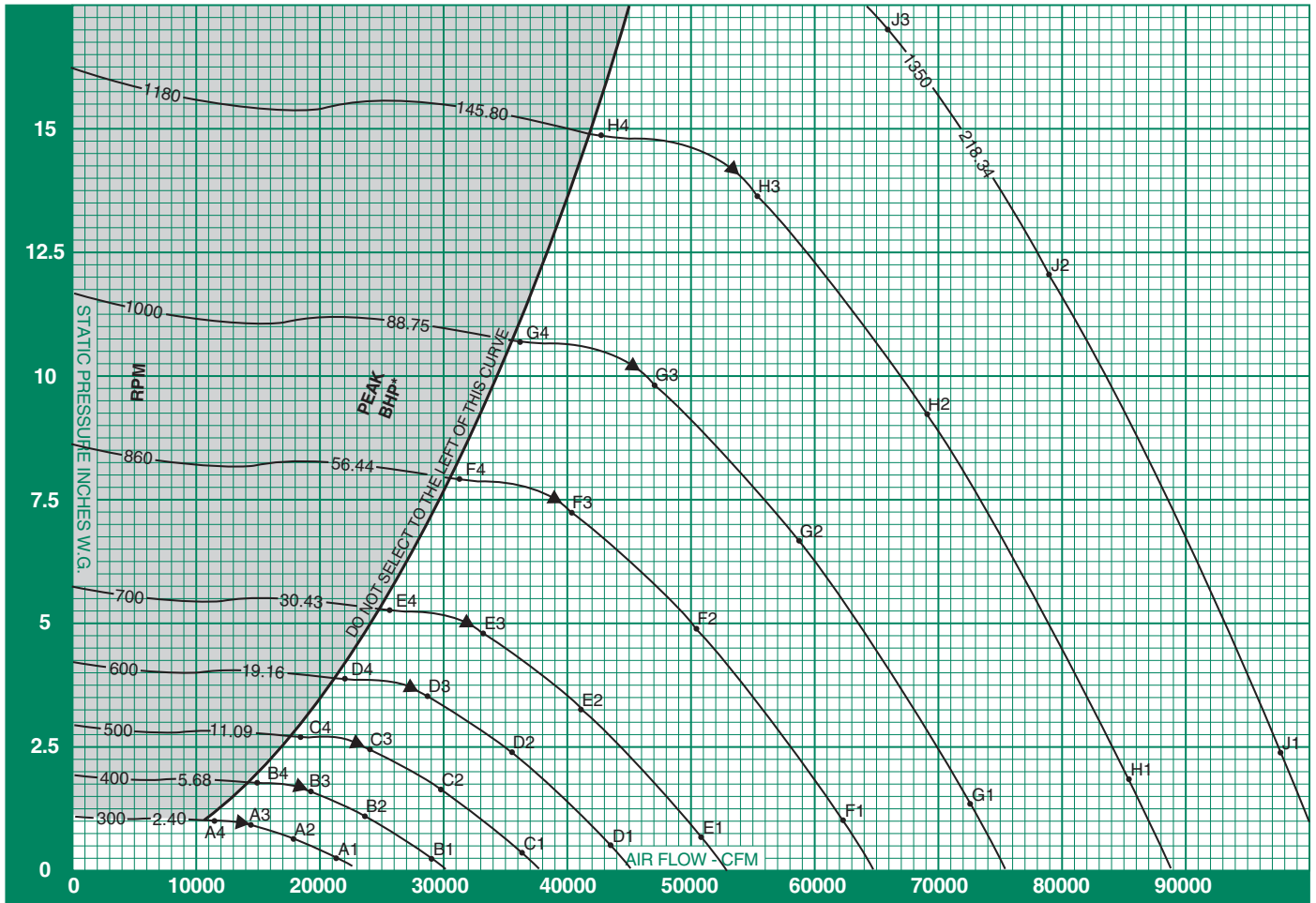
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
400	0.25	A1	88	79	81	80	71	65	60	55	1000	8.00	E3	107	107	99	92	90	86	81	76	
	0.86	A2	85	76	74	73	66	61	56	51		9.08	E4	108	106	99	91	89	85	80	75	
	1.28	A3	83	75	70	70	64	60	54	49		1170	1.48	F1	108	113	109	104	105	100	92	86
	1.45	A4	81	75	69	69	63	59	53	48			7.40	F2	109	112	106	99	97	93	87	82
600	0.39	B1	96	94	90	91	86	78	72	67	1300	10.95	F3	110	111	105	97	93	91	86	81	
	1.95	B2	96	92	84	82	79	73	67	62		12.43	F4	111	111	104	96	93	90	84	79	
	2.88	B3	95	90	82	79	76	71	66	61		1400	1.83	G1	110	115	113	106	107	104	96	89
	3.27	B4	94	89	82	78	75	70	65	60			9.13	G2	111	115	110	101	99	96	90	85
800	0.69	C1	101	106	95	97	96	87	80	75	1500	13.52	G3	111	114	108	100	96	94	89	84	
	3.46	C2	102	103	91	89	88	81	76	71		15.34	G4	113	115	107	100	95	93	87	83	
	5.12	C3	103	100	91	85	84	79	75	69		1400	2.12	H1	111	116	116	108	109	106	98	92
	5.81	C4	104	99	91	85	84	78	74	68			10.59	H2	112	116	113	103	101	99	92	87
900	0.88	D1	103	109	99	99	99	91	84	79	1500	15.68	H3	113	116	111	102	97	96	91	86	
	4.38	D2	104	106	96	92	91	85	79	74		17.00	H4	114	117	110	102	97	95	90	85	
	6.48	D3	105	104	95	89	87	83	78	73		1400	2.43	J1	112	117	119	109	111	109	100	94
	7.35	D4	106	103	95	88	87	82	77	72			12.16	J2	113	118	116	105	102	101	94	89
1000	1.08	E1	105	110	103	101	101	95	87	82	1500	17.00	J3	114	118	114	104	100	99	93	88	
	5.40	E2	106	109	100	95	93	88	82	77												



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-542 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
300	0.25	A1	79	76	77	72	65	59	54	49	
	0.60	A2	78	72	70	67	61	55	50	45	
	0.88	A3	76	70	67	64	59	54	49	44	
	1.00	A4	75	70	66	63	58	53	48	43	
400	0.25	B1	92	82	85	84	75	68	63	58	
	1.06	B2	89	79	77	76	69	64	59	54	
	1.57	B3	86	78	73	73	67	63	58	52	
	1.78	B4	85	79	72	72	66	62	56	51	
500	0.33	C1	97	91	89	89	83	75	70	65	
	1.66	C2	95	88	82	81	76	70	65	60	
	2.45	C3	93	86	80	78	74	69	64	59	
	2.78	C4	92	86	79	77	73	68	63	58	
600	0.48	D1	100	98	93	94	89	81	75	70	
	2.38	D2	99	95	87	85	82	76	71	65	
	3.53	D3	98	93	85	82	79	74	69	64	
	4.01	D4	98	92	85	81	78	73	68	63	
700	0.65	E1	102	104	95	97	94	86	80	74	
	3.25	E2	103	101	91	89	87	80	75	70	
	700	4.80	E3	102	99	90	86	84	79	74	69
		5.45	E4	103	98	90	85	83	78	73	68
860		0.98	F1	106	111	100	102	101	93	86	80
		4.90	F2	107	108	97	94	93	87	81	76
	7.25	F3	108	106	96	90	89	85	80	75	
	8.23	F4	109	104	97	90	89	84	79	74	
1000	1.32	G1	109	114	106	104	104	98	91	85	
	6.62	G2	110	112	103	98	96	91	85	80	
	9.80	G3	110	110	102	95	93	89	84	79	
	11.13	G4	112	109	102	94	92	88	83	78	
1180	1.84	H1	112	117	113	108	108	104	96	90	
	9.22	H2	113	116	110	102	100	96	90	85	
	13.65	H3	113	115	108	100	97	94	89	84	
	15.50	H4	115	115	107	100	96	93	88	83	
1350	2.41	J1	114	119	118	110	111	108	100	94	
	12.07	J2	115	119	115	105	103	101	94	89	
	17.00	J3	116	119	113	104	100	98	93	88	



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-600 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY  
\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

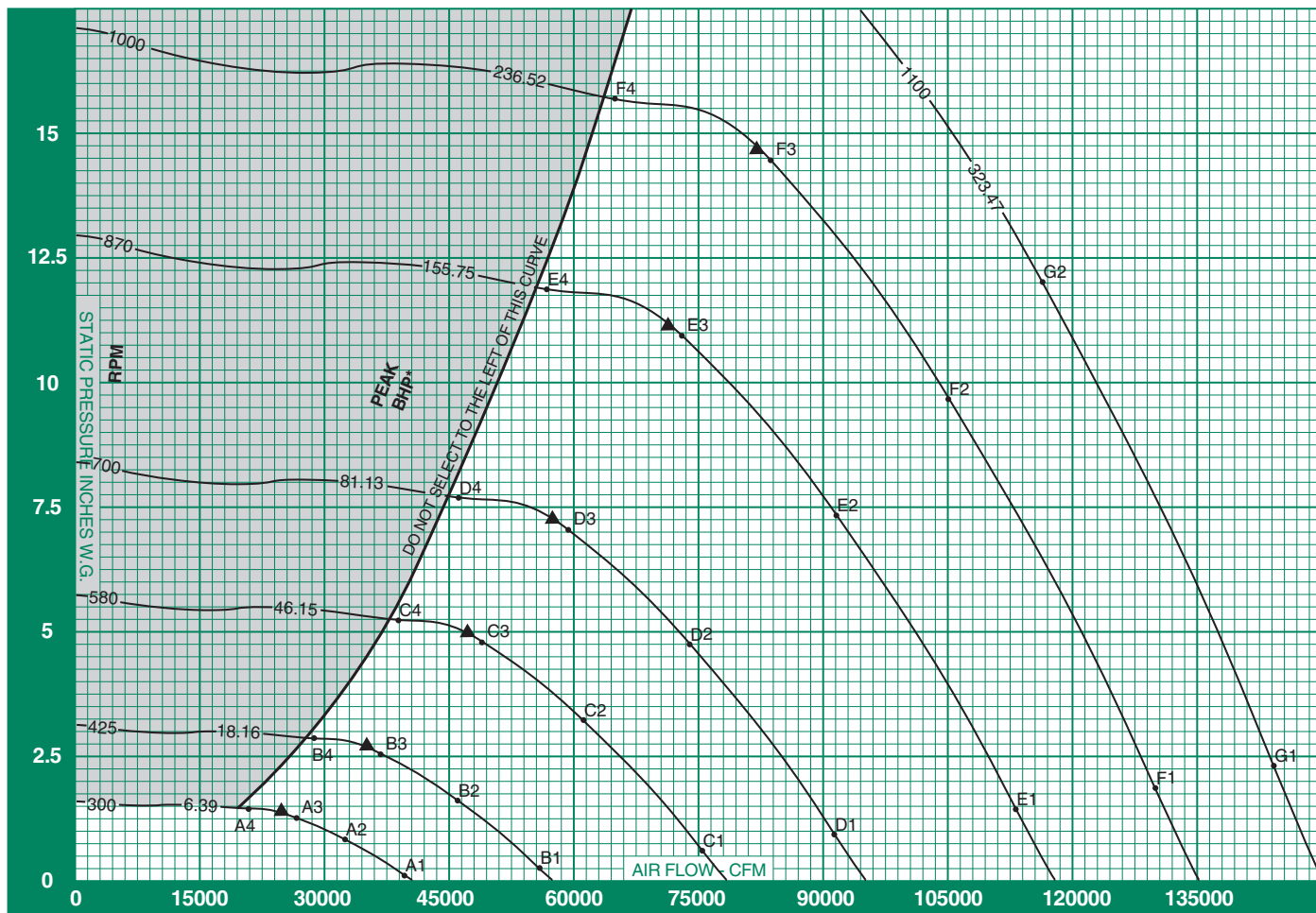
The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000	
350	0.20	A1	90	83	85	82	74	68	64	67	700	5.88	D3	106	102	93	89	87	82	77	74	
	1.00	A2	87	79	77	75	68	63	60	63		6.39	D4	106	101	93	88	86	81	76	73	
	1.47	A3	85	78	73	72	67	62	59	62		870	1.23	E1	110	115	104	105	104	96	89	84
	1.60	A4	84	78	73	71	66	61	58	61			6.13	E2	111	112	101	97	96	90	84	79
450	0.33	B1	98	90	90	90	82	75	70	72	1000	9.08	E3	112	110	100	94	93	88	83	78	
	1.64	B2	96	87	83	82	76	70	65	67		9.87	E4	112	109	100	93	92	87	83	77	
	2.43	B3	94	86	80	79	74	69	64	66		1180	1.62	F1	112	117	109	108	107	101	94	88
	2.64	B4	93	86	79	78	73	68	63	65			8.10	F2	113	115	106	101	99	94	89	83
580	0.55	C1	103	100	95	96	91	83	77	76	1180	11.28	G2	116	119	113	105	103	99	93	88	
	2.73	C2	102	97	89	88	84	78	73	72		16.70	G3	117	118	111	103	100	97	92	87	
	4.03	C3	101	95	87	84	81	76	71	70		1180	2.26	G1	115	120	116	111	111	107	99	93
	4.39	C4	101	95	87	84	81	76	71	70			11.28	G2	116	119	113	105	103	99	93	88
700	0.79	D1	106	107	99	100	97	89	83	79	1180	16.70	G3	117	118	111	103	100	97	92	87	
	3.97	D2	106	104	94	92	90	84	78	75												



# CONSTANT SPEED PERFORMANCE CURVES

# BCA-660 SINGLE WIDTH



▲ PEAK STATIC EFFICIENCY

\* PEAK BHP DOES NOT INCLUDE DRIVE LOSSES

$$\% \text{ STATIC EFFICIENCY} = \frac{\text{CFM} \times \text{SP} \times .0157}{\text{BHP}}$$

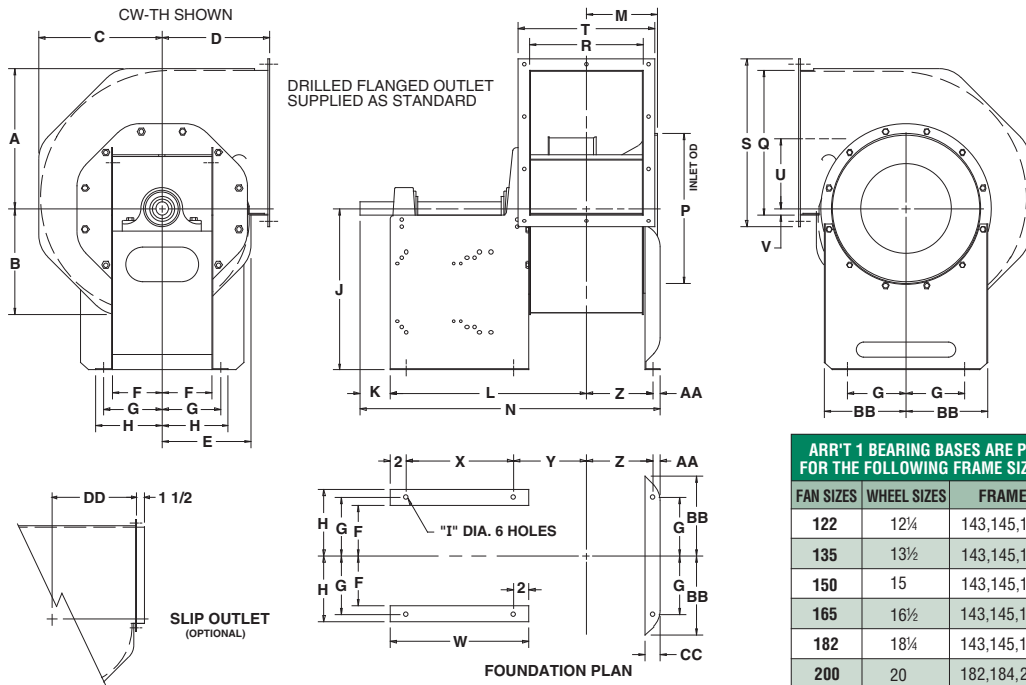
$$\text{Outlet Velocity (OV) in feet per minute} = \frac{\text{CFM}}{\text{Outlet Area}}$$

## SOUND POWER LEVELS x 10<sup>-12</sup> WATT

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 L<sub>wi</sub> sound power levels for installation Type B, free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY								FAN RPM	FAN SP	SOUND POINT	BAND / FREQUENCY							
			1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000				1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
300	0.18	A1	87	83	84	80	72	66	65	68	700	4.80	D2	109	107	97	95	92	86	81	78
	0.88	A2	84	78	76	73	67	61	60	63		7.11	D3	109	105	96	91	90	85	80	77
	1.31	A3	83	76	73	70	65	60	59	62		7.73	D4	110	104	96	91	89	84	79	76
	1.42	A4	82	76	72	70	64	60	58	61		1.48	E1	113	118	107	108	107	99	92	87
425	0.35	B1	101	90	92	92	83	76	71	74	7.42	E2	114	115	103	100	99	93	87	82	
	1.77	B2	98	87	84	83	77	72	66	69	11.00	E3	115	113	103	97	96	91	86	81	
	2.62	B3	95	87	81	80	75	71	65	68	11.94	E4	116	112	103	96	95	90	85	80	
	2.85	B4	94	87	80	80	74	70	65	67	1.96	F1	115	120	112	110	110	104	96	91	
580	0.66	C1	106	103	98	99	94	86	80	79	9.81	F2	116	118	109	104	102	97	91	86	
	3.30	C2	105	100	92	91	87	81	75	75	14.51	F3	117	116	108	101	99	95	90	85	
	4.88	C3	104	98	90	87	84	79	74	73	15.78	F4	118	116	108	101	98	94	89	84	
	5.31	C4	104	98	90	87	84	79	74	73	2.42	G1	117	122	116	112	113	108	100	94	
700	0.96	D1	109	110	101	103	100	92	86	82	12.08	G2	118	121	113	106	104	100	95	89	

**BCA/BCS-122-200  
ARRANGEMENT 1  
ROTATABLE  
HOUSING**

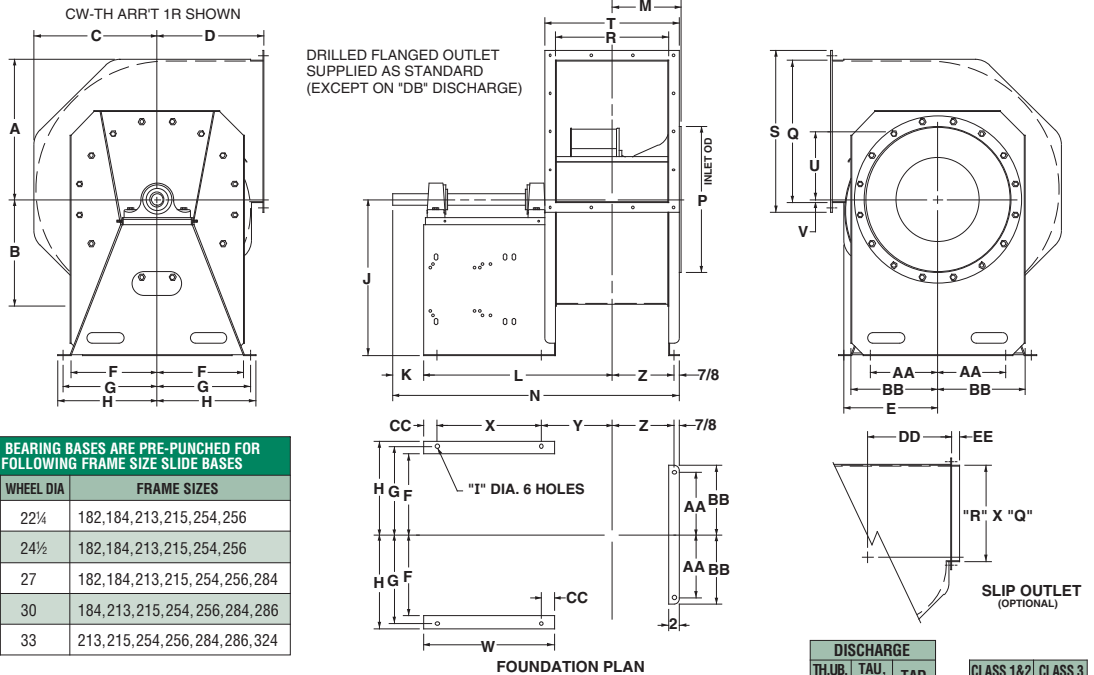


ARR'T 1 BEARING BASES ARE PRE-PUNCHED FOR THE FOLLOWING FRAME SIZE SLIDE BASES		
FAN SIZES	WHEEL SIZES	FRAME SIZES
122	12¼	143,145,182,184
135	13½	143,145,182,184
150	15	143,145,182,184
165	16½	143,145,182,184,213,215
182	18¼	143,145,182,184,213,215
200	20	182,184,213,215,254

FAN SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	CLASS 1 & 2		CLASS 3			
																														SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR	SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR
122	12¾	9¾	10¾	10	7¾	5½	6¾	7¼	7/16	15	3½	18¾	6¾	28¾	13¾	12¾	10	15¾	13	5¾	¾	13	9	7¼	6¼	¾	9¾	1¾	8¾	1¾	¼ x ¼	104	1¾	¾ x ¾	127
135	13¾	10¾	11¾	11	8¾	5½	6¾	7¼	7/16	16	3½	18¾	7½	29¾	14¾	13¾	10¾	16¾	13¾	6¾	¾	13	9	7¾	6¾	¾	9¾	1¾	9¾	1¾	¼ x ¼	116	1¾	¾ x ¾	142
150	15¾	11¾	13¼	12	9¾	5½	6¾	7¼	7/16	18	3½	19¾	7¾	30¾	16¾	15¾	12¾	18¾	15¾	7¾	¾	13	9	8¾	7¾	¾	9¾	1¾	10¾	1¾	¼ x ¼	134	1¾	¾ x ¾	162
165	16¾	12¾	14¾	13	10¾	6½	7¾	8¾	¾	19	4	24¾	8¼	37¾	17¾	16¾	13¾	19¾	16¾	7¾	¾	18	14	8¾	8¼	1	11½	2½	11¼	1¾	¾ x ¾	209	1¾	¾ x ¾	253
182	18¼	13¾	16¾	14	11¾	6½	7¾	8¾	¾	21	4	25¾	9	39¾	19¾	18¾	14¾	21¾	17¾	8¾	¾	18	14	9¾	8¼	1	11½	2½	12¼	1¾	¾ x ¾	239	1¾	¾ x ¾	285
200	20	15¾	17¾	15	12¾	6½	7¾	8¾	¾	22	4	29¾	9¾	43¾	21¾	20¾	16¾	23¾	19¾	9¾	¾	21	17	10¾	9½	1	12¾	2½	13¼	1¾	¾ x ¾	275	1¾	½ x ¼	339

\*FAN WEIGHT IS APPROXIMATE

**BCA/BCS-222-330  
ARRANGEMENT 1  
ROTATABLE HOUSING**



FAN SIZE	CLASS 1 & 2		CLASS 3	
	SHAFT DIA	KEYWAY	SHAFT DIA	KEYWAY
222	1½	¾ x ¾	1½	½ x ¼
245	1½	¾ x ¾	2¾	½ x ¼
270	1½	¾ x ¾	2¾	½ x ¼
300	1½	½ x ¼	2½	¾ x ¾
330	2¾	½ x ¼	2½	¾ x ¾

ARR'T 1 BEARING BASES ARE PRE-PUNCHED FOR THE FOLLOWING FRAME SIZE SLIDE BASES		
FAN SIZE	WHEEL DIA	FRAME SIZES
222	22¼	182,184,213,215,254,256
245	24½	182,184,213,215,254,256
270	27	182,184,213,215,254,256,284
300	30	184,213,215,254,256,284,286
330	33	213,215,254,256,284,286,324

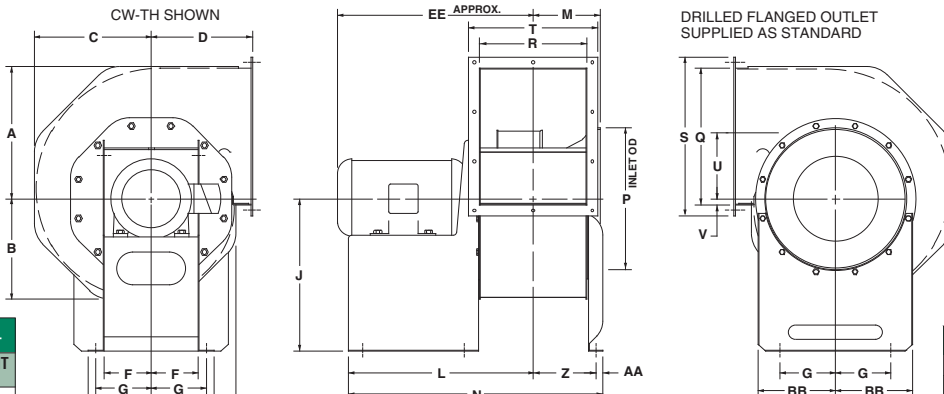
FAN SIZE	A	B	C	D	D	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DISCHARGE				CLASS 1&2 FAN WT.* NO MOTOR	CLASS 3 FAN WT.* NO MOTOR
																															TH,UB DB,BH	TAU, BAU	TAD	DD		
222	22¼	16¾	19½	16	20½	23¾	14¾	13¾	15	16	1½	25	5	32¾	10¾	48¾	23¾	22¾	17¾	25¾	20¾	10¾	1¾	23	19	11¾	10¾	10	13¾	2	14¾	18¾	22¾	1¾	393	448
245	24½	18½	21½	18	22½	26¾	15½	15½	17	18	1½	27	5	32¾	12¾	49¾	26¾	24¾	19¾	28¾	23¾	11¾	1¾	23	19	11¾	10¾	12	15½	2	15¾	20¾	24¾	2	468	546
270	26¾	20¾	23¾	19½	24	28¼	17¾	16½	18	19	1¾	30	6	36¾	13¾	54¾	28¾	27¾	21¾	31¾	25¾	13¾	1¾	25	20	13¾	11¾	13	16¾	2½	17¾	22¾	26¾	1¾	616	702
300	29¾	22¾	26¼	22	26	30½	18¾	18	19½	20½	1¾	33	6	37¾	14¾	57¼	31¾	30¾	24¾	34¾	28¾	14¾	¾	25	20	14¾	13¾	14½	18¾	2½	19¾	24	28½	2	763	870
330	32¾	24¾	28¾	24	28¾	33¾	20¾	19½	21	22	1¾	36	6½	40¾	15¾	62¾	34¾	33¼	26¾	37¼	30¾	15¾	¾	27	22	15¾	14¾	16	19¾	2½	21¾	26¾	31¾	2	913	1027

\*FAN WEIGHT IS APPROXIMATE





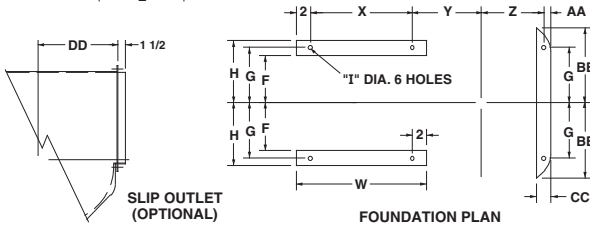




**BCA/BCS-122-200**  
**ARRANGEMENT 4**  
**ROTATABLE HOUSING**

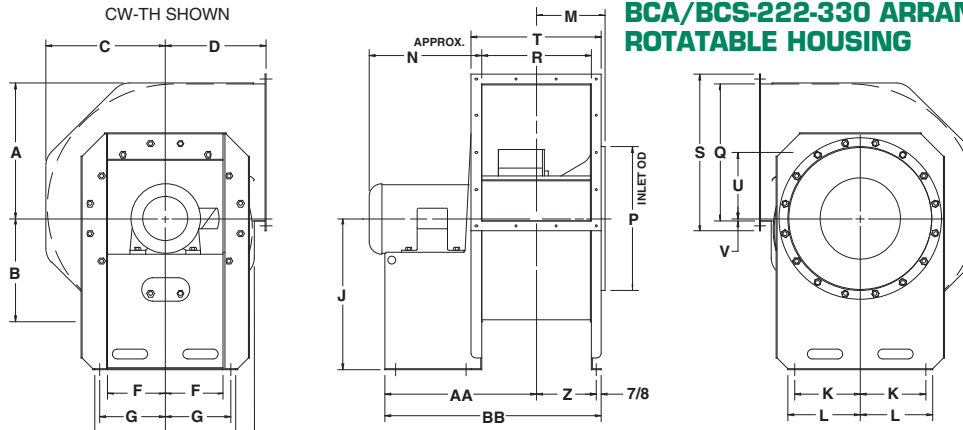
APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290

FAN SIZE	APPROXIMATE FAN WEIGHTS LESS MOTOR							
	143/145T		182/184T		213/215T		254/256T	
	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS
	1&2	3&4	1&2	3&4	1&2	3&4	1&2	3&4
122	103	126	102	125	101	124	—	—
135	115	141	114	140	113	139	—	—
150	133	161	132	160	131	159	—	—
165	208	252	206	250	205	249	203	247
182	235	281	233	279	232	278	231	277
200	264	328	262	326	261	325	259	323



FAN SIZE	WHEEL DIA	EE																																			
		A	B	C	D	E	F	G	H	I	J	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD								
122	12 1/4	12 3/16	9 9/16	10 7/16	10	7 7/16	5 1/2	6 1/4	7 1/4	7 1/4	15	18 1/2	6 1/4	24 1/4	13 1/4	12 3/4	10	15 1/4	13	5 3/4	3 1/4	13	9	7 1/4	6 1/4	3/4	9 1/4	1 1/4	8 1/4	14 1/4	15 1/4	16 3/4	17 1/4	19 3/4	20 1/4	—	—
135	13 1/2	13 3/8	10 5/8	11 1/8	11	8 1/8	5 1/4	6 1/4	7 1/4	7 1/4	16	18 3/4	7 1/2	25 1/4	14 3/4	13 3/4	10 1/4	16 1/4	13 3/4	6 3/4	7/8	13	9	7 1/4	6 1/4	3/4	9 3/4	1 1/4	9 3/4	15 3/8	15 3/8	17 1/4	17 3/4	20 3/8	20 3/8	—	—
150	15	15 1/8	11 1/8	13 1/4	12	9 1/4	5 1/2	6 3/4	7 3/4	7 3/4	18	19 3/4	7 1/2	27 3/4	16 1/2	15 1/4	12 3/4	18 1/4	15 3/4	7 3/4	9/8	13	9	8 1/2	7 3/4	3/4	9 3/4	1 1/4	10 3/8	16	16 3/8	17 1/8	18 3/8	20 3/4	21 3/8	—	—
165	16 1/2	16 1/8	12 1/8	14 1/4	13	10 3/8	6 1/2	7 1/4	8 3/4	8 3/4	19	23 3/8	8 1/4	32 1/2	17 1/2	16 3/4	13 3/4	19 1/4	16 3/4	7 3/4	1 1/2	17	13	8 3/4	8 1/4	1	11 1/4	2 1/4	11 1/4	16 1/2	17 3/8	18 1/2	19	21 1/4	22 3/8	25 3/4	26 1/2
182	18 1/4	18 1/4	13 3/8	16 1/4	14	11 1/8	6 1/2	7 3/4	8 3/4	8 3/4	21	24 1/2	9	34 3/8	19 1/2	18 3/4	14 3/4	21 1/4	17 3/4	8 2/4	1 1/2	17	13	9 1/4	8 3/4	1	11 1/4	2 1/4	12 1/4	17 3/8	17 3/8	19 3/8	19 1/2	22 1/4	22 1/4	26 3/8	27 3/8
200	20	20	15 1/2	17 3/8	15	12 1/8	6 1/2	7 3/4	8 3/4	8 3/4	22	25 3/8	9 1/4	35 1/4	21 1/2	20 1/4	16 1/4	23 1/4	19 3/4	9 1/4	3/4	17	13	10 3/8	9 1/2	1	12 1/4	2 1/4	13 1/4	18	18 3/8	19 3/8	20 3/8	22 3/4	23 3/8	27	27 3/8

APPROX. TFC MOTOR WEIGHT AND RELATED DIMENSIONS				
FRAME SIZE	WEIGHT LBS.	N	W	X
182T	75	11 3/4	10 1/2	6
184T	100	12 1/4	10 1/2	6
213T	150	14 1/4	12 1/4	8
215T	175	16 1/4	12 1/4	8
254T	240	19	16 1/4	12
256T	300	20 3/4	16 1/4	12
284T	403	22 1/4	18 3/8	14
286T	420	23 3/4	18 3/8	14
324T	553	24 3/4	20 3/8	16
326T	627	26 1/4	20 3/8	16
364T	726	27 1/4	21 3/8	17
365T	836	28 1/4	21 3/8	17
404T	1122	32 1/2	24 3/8	20
405T	1300	34	24 3/8	20
444T	1727	38 1/2	27 3/8	23
445T	1846	40 1/2	27 3/8	23



**BCA/BCS-222-330**  
**ARRANGEMENT 4**  
**ROTATABLE HOUSING**

FAN SIZE	APPROXIMATE FAN WEIGHTS LESS MOTOR															
	182/184T		213/215T		254/256T		284/286T		324/326T		364/365T		404/405T		444/445T	
	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	
	1&2	3	1&2	3	1&2	3	1&2	3	1&2	3	1&2	3	1&2	3	1&2	3
222	347	372	351	376	362	387	364	389	366	391	N/A	N/A	N/A	N/A	N/A	
245	429	462	435	468	447	480	449	482	453	486	453	486	N/A	N/A	N/A	
270	537	578	570	611	588	629	592	633	598	639	598	639	609	650	N/A	
300	N/A	707	760	727	780	726	779	739	792	740	793	751	804	761	814	
330	N/A	889	996	910	1017	917	1024	924	1031	925	1032	938	1045	949	1056	

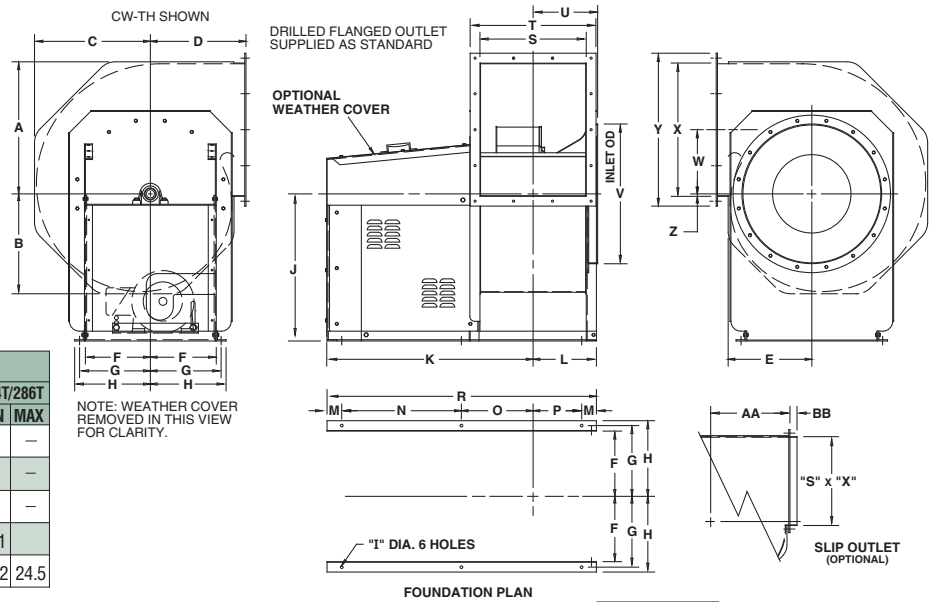
FAN SIZE	TH. UB. BAU			TAU. BAU			TAD			182/184T		213/215T		254/256T		284/286T		324/326T		364/365T		404/405T		444/445T	
	CC	DD	DD	DD	DD	DD	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	
222	1 3/8	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	19 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	20 1/2	N/A
245	2	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	24 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2	N/A
270	2 1/2	2 7/8	2 7/8	2 7/8	2 7/8	2 7/8	28 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	29 1/4	N/A
300	3	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	33 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	34 1/2	N/A
330	3 1/2	3 3/4	3 3/4	3 3/4	3 3/4	3 3/4	38 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	39 1/2	N/A





# BCA/BCS-222-330 ARRANGEMENT 10 ROTATABLE HOUSING

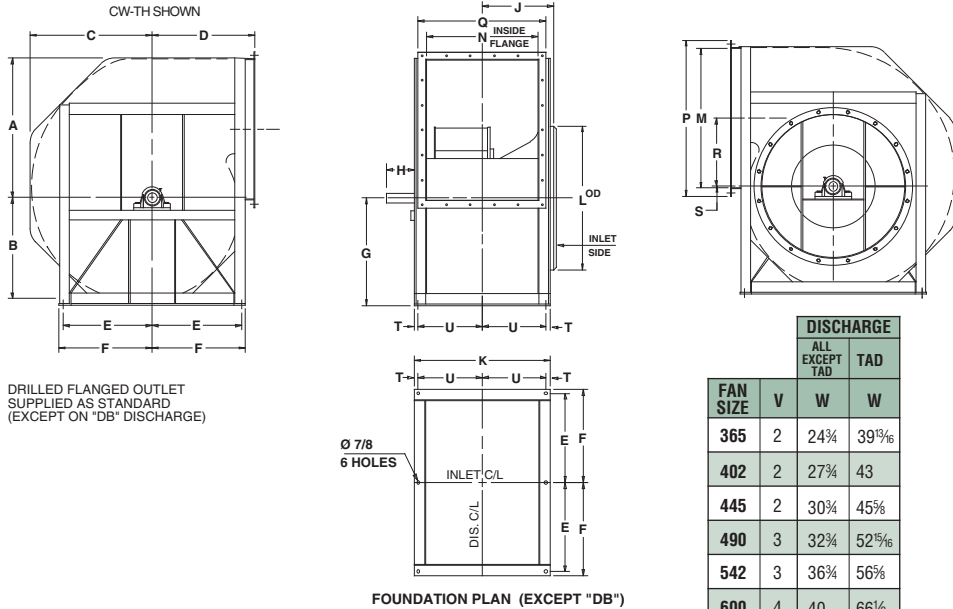
APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440



BELT CENTER DISTANCE													
FAN SIZE	WHEEL DIA.	MAX FRAME SIZE	MAX FAN SHEAVE O.D.	143T/145T		182T/184T		213T/215T		254T/256T		284T/286T	
				MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
222	22 1/4	256T	10	15.7	19.8	14.7	18.8	14	18	13	17	-	-
245	24 1/2	256T	11	17.7	21.8	16.7	20.8	16	20	15	19	-	-
270	27	256T	12	20.7	24.8	19.7	23.8	19	23	18	22	-	-
300	30	286T	13 1/2	22.6	26.7	21.6	25.7	20.8	25	19.8	24	19.1	-
330	33	286T	14 3/4	25.7	29.8	24.7	28.8	24	28	23	27	22.2	24.5

FAN SIZE	DISCHARGE													DISCHARGE			DISCHARGE			DISCHARGE			Approx. Fan Wt. No Motor											
	A	B	C	D	D	D	E	F	G	H	I	J	K	L	M	N	O	P	R	S	T	U		V	W	X	Y	Z	AA	AA	AA	BB	SHAFT DIA	KEYWAY
222	22 1/4	16 1/8	19 1/2	16	20 1/2	23 3/4	14 1/8	11 1/4	12 1/4	13 1/4	1 1/16	25	39 3/32	10 3/32	3	22 1/32	14 1/16	7 3/32	50 1/16	17 1/16	20 1/16	10 23/32	23 1/2	10 2/32	22 3/8	25 3/8	1 1/2	14 3/8	18 3/8	22 1/8	1 1/8	1 1/16	3/8 x 3/16	565
245	24 1/2	18 1/2	21 1/2	18	22 1/2	26 3/4	15 1/2	12 3/8	13 3/8	14 3/8	1 1/16	27	40 1/32	11 27/32	3	22 29/32	14 1/16	8 2/32	51 1/16	19 1/16	23 1/16	12 3/32	26 1/2	11 1/8	24 1/16	28 1/16	1 5/8	15 3/8	20 1/2	24 3/8	2	1 1/16	3/8 x 3/16	670
270	26 1/8	20 3/8	23 3/8	19 1/2	24	28 1/4	17 1/8	13 1/8	14 1/8	15 1/8	1 1/16	30	42 3/32	12 29/32	3	24 5/32	14 3/8	9 29/32	54 1/16	21 1/16	25 1/16	13 3/32	28 1/2	13 1/8	27 3/8	31 3/8	1 3/4	17 3/8	22 1/8	26 1/8	1 1/8	1 1/16	3/8 x 3/16	805
300	29 1/8	22 3/8	26 1/4	22	26	30 1/2	18 1/8	15	16	17	1 1/16	33	47 3/32	14 3/32	3	27 1/32	16 3/8	11 3/32	61 1/16	24 1/8	28 1/8	14 11/32	31 1/2	14 17/32	30 3/8	34 3/8	1 3/4	19 3/8	24	28 1/2	2	1 3/8	1/2 x 1/4	1000
330	32 1/8	24 3/8	28 3/8	24	28 3/4	33 3/4	20 1/8	16 1/2	17 1/2	18 1/2	1 1/16	36	48 3/32	15 3/32	3	28 3/32	16 3/8	12 3/32	63 1/16	26 1/8	30 1/8	15 1/8	34 1/2	15 3/32	33 1/4	37 1/4	2 1/2	21 3/8	26 3/4	31 3/4	2	2 3/8	1/2 x 1/4	1175

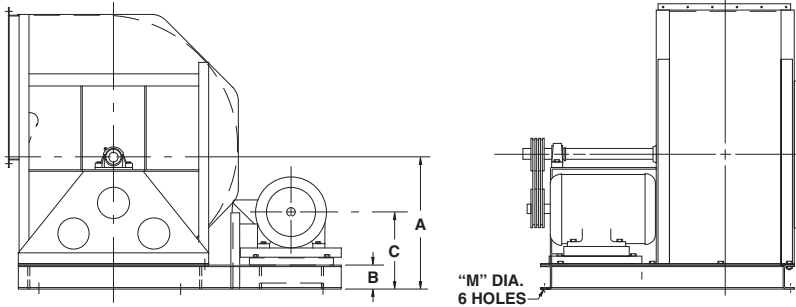
# BCA/BCS-365-660 ARRANGEMENT 3 SWSI FIXED HOUSING



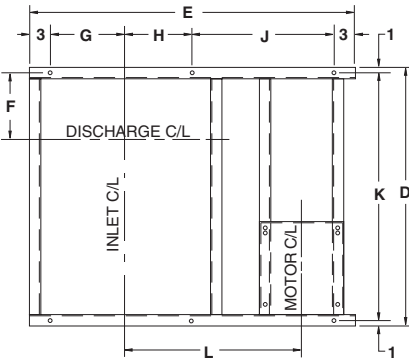
FAN SIZE	DISCHARGE													DISCHARGE			DISCHARGE			DISCHARGE			APPROX. FAN WEIGHT NO MOTOR (LBS.)									
	A	B	C	D	D	D	E	F	TH	TAU	UB	BAU	BH	DB	TAD	H	J	K	L	M	N	P	Q	R	S	T	U	SHAFT DIA	KEYWAY	CLASS 1 & 2	CLASS 3	
365	36 5/16	27 1/16	31 1/8	27	42 1/16	23 1/4	24 1/4	28	30	33	35	40	27	33	6 1/2	16 1/16	35 3/8	37 1/2	36 3/4	29 1/4	40 3/4	33 1/4	17 1/16	1 1/16	1	16 1/16	2 3/8	1/2 x 1/4	2 1/8	5/8 x 3/16	1226	1448
402	40	30 1/4	35 1/8	30	45 1/4	25 1/4	26 1/4	31	33	36	38	43	30	35	7	18 3/32	38 3/8	41 1/2	40 1/8	32 3/8	44 1/8	36 3/8	19 5/32	1 3/16	1	18 5/32	2 3/8	1/2 x 1/4	2 1/8	5/8 x 3/16	1504	1742
445	44 3/32	33 3/32	38 3/32	33	47 3/8	27	28 1/4	34	37	40	42	47	33	37	7	19 3/32	41 1/8	45 1/2	44 1/16	35 1/8	48 3/8	39 1/8	21 1/8	2 1/32	1 1/4	19 9/32	2 1/8	5/8 x 3/16	2 1/8	5/8 x 3/16	1740	1948
490	48 1/32	36 3/4	42 1/16	36	56 3/8	31 1/4	32 1/2	37	40	43	46	54	36	44	8	22 3/4	45 1/4	51 1/2	49 1/8	39 1/8	55 1/8	45 1/8	23 3/4	2 29/32	1 1/4	21 3/8	2 1/8	5/8 x 3/16	3 3/8	3/4 x 3/8	2290	2672
542	53 13/16	40 2/32	47 1/4	40	59 3/8	33 3/4	35	41	45	48	51	59	40	47	8	24 27/32	49 1/8	56 3/4	54 1/8	43 1/8	60 3/8	49 1/8	26 1/4	1 1/8	1 1/4	23 3/32	2 1/8	5/8 x 3/16	3 3/8	3/4 x 3/8	2694	3172
600	59 1/2	44 1/16	52 1/32	44	70 1/2	37 3/4	39	46	49	53	57	65	44	56	8	27 7/8	54	63 1/4	60 1/8	47 3/8	68 1/8	55 1/8	29 1/2	1 3/8	1 1/4	25 3/4	2 1/8	3/4 x 3/8	3 1/8	7/8 x 7/16	3073	3667
660	65 1/16	49 3/32	57 3/32	48 3/4	74 3/8	40 3/4	42	50	54	58	62	71	49	59	8	29 3/8	58 3/4	69 1/4	66 1/2	52 1/2	74 1/2	60 3/8	32 1/8	1 3/8	1 1/4	28 1/8	3 3/8	3/4 x 3/8	3 1/8	7/8 x 7/16	3381	4195



**BCA/BCS-365 AND 402 ARRANGEMENT 1 UNITARY**

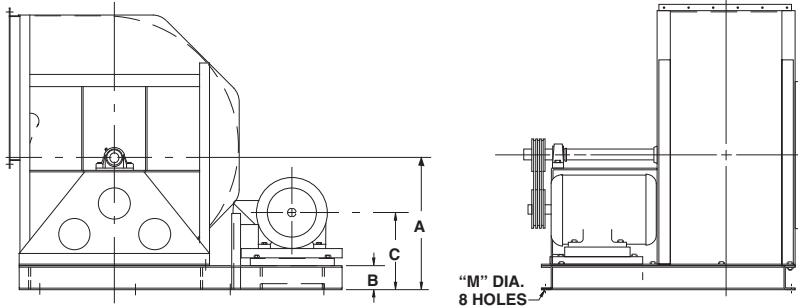


**NOTES:**  
 BELT C/D = "N" DIMENSION  
 ARR'T IR UNITARY BASE  
 MOTOR POSITION "W"  
 CHANNEL: 6 x 2.497 x .310  
 6" - 12#  
 ARR'T 1W SHOWN,  
 ARR'T 1Z IS MIRROR IMAGE

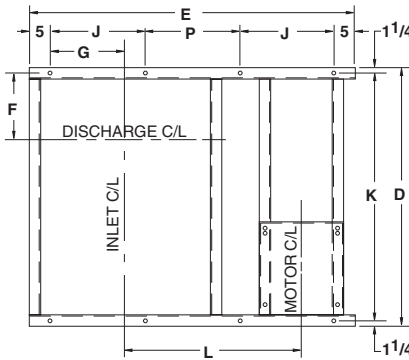


FAN SIZE	FRAME SIZE	A							B	C	D	E	F	G	H	J	K	L	M	N							APPROX. WT. FAN, MOTOR, UNIT	
		TH	TAU	UB	BAU	BH	DB	TAD												TH	TAU	UB	BAU	BH	DB	TAD	CLASS 1 & 2	CLASS 3
365	254T	34	36	39	41	46	33	39	6	65 3/16	16 7/16	71	69	10 1/4	31 1/2	35	39.2	40.1	41.6	42.8	45.8	38.7	41.6	2084	2329			
	256T																									2115	2360	
	284T																									2225	2470	
	286T																									2276	2521	
	324T																									2410	2655	
	326T																									2476	2721	
	364T																									2652	2897	
	365T																									2713	2958	
	404T																									3007	3252	
	405T																									3161	3406	
	444T																									3553	3798	
445T	3640	3885																										
402	254T	37	39	42	44	49	36	41	6	69 9/16	16 7/16	73	73	10 3/4	33 1/2	37	42.3	43.3	45.0	46.1	49.3	41.9	44.4	2417	2657			
	256T																									2448	2688	
	284T																									2559	2799	
	286T																									2600	2850	
	324T																									2744	2984	
	326T																									2810	3050	
	364T																									2988	3228	
	365T																									3049	3289	
	404T																									3343	3583	
	405T																									3497	3737	
	444T																									3888	4128	
445T	3975	4215																										

**BCA/BCS- 445 THRU 660 ARRANGEMENT 1 UNITARY**



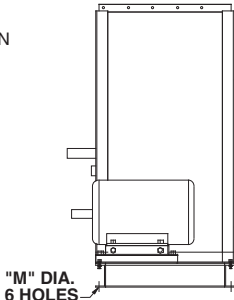
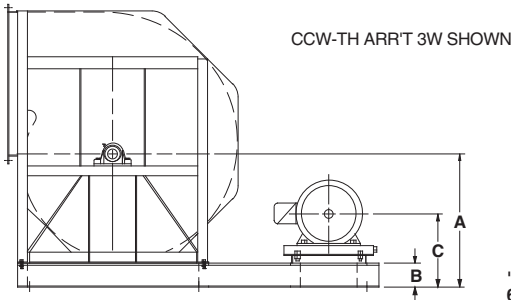
**NOTES:**  
 BELT C/D = "N" DIMENSION  
 ARR'T IR UNITARY BASE  
 MOTOR POSITION "W"  
 CHANNEL: 8 x 2.978 x .353  
 8" - 18.7#  
 ARR'T 1W SHOWN,  
 ARR'T 1Z IS MIRROR IMAGE



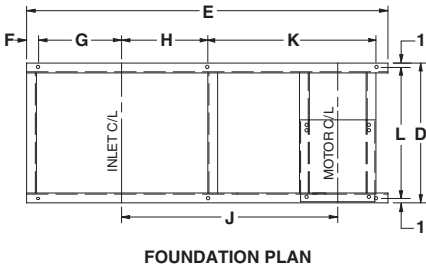
FAN SIZE	FRAME SIZE	A							B	C	D	E	F	G	J	K	L	M	N							APPROX. WT. FAN, MOTOR, UNIT				
		TH	TAU	UB	BAU	BH	DB	TAD											TH	TAU	UB	BAU	BH	DB	TAD	P	CLASS 1 & 2	CLASS 3		
445	324T	42	45	48	50	55	41	45	8	20 1/16	82	96	19 9/16	23 1/4	29	70	53	7	47.1	48.5	50.1	51.2	54.2	46.6	48.5	24	3236	3531		
	326T																												3302	3597
	364T																												3474	3769
	365T																												3535	3830
	404T																												3862	4157
	405T																												4016	4311
	444T																												4415	4710
	445T																												4502	4797
490	324T	45	48	51	54	62	44	52	8	24 1/4	79 1/16	97	21 1/8	27 1/2	29	76 3/8	50	7	54.1	55.3	56.7	58.2	62.6	53.8	57.2	29	4484	4864		
	326T																												4638	5018
	364T																												5057	5437
	365T																												5144	5524
	404T																												5726	6111
	405T																												5815	6200
	444T																												6397	6785
	445T																												6486	6874
542	324T	49	53	56	59	67	48	55	8	24 1/4	83 1/4	102	23 3/8	30	31	80 3/4	52	7	56.6	58.7	60.4	62.2	67.4	56.1	59.8	28	4314	4814		
	326T																												4380	4880
	364T																												4549	5049
	365T																												4610	5110
	404T																												4915	5415
	405T																												5069	5569
	444T																												5494	5994
	445T																												5581	6081
600	324T	54	57	61	65	73	52	64	8	20 1/16	102	109	25 1/8	34	34	87 1/2	57	7	63.4	65.1	67.4	69.9	75.2	62.4	71.8	32	5239	5886		
	326T																												5304	5951
	364T																												5455	6102
	365T																												5516	6163
	404T																												5782	6429
	405T																												5883	6530
	444T																												6188	6835
	445T																												6365	7012
660	324T	58	62	66	70	79	57	67	8	24 1/4	94 3/8	118	28 1/8	37	36	91 3/4	60	7	68.1	70.4	72.8	75.4	81.5	67.6	73.4	34	6228	6938		
	326T																												6294	7004
	364T																												6464	7174
	365T																												6525	7235
	404T																												6823	7533
	405T																												6924	7634
	444T																												7253	7963
	445T																												7430	8140



## BCA/BCS-365 AND 402 ARRANGEMENT 3 SWSI UNITARY

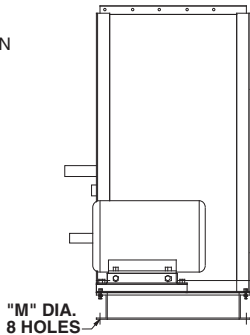
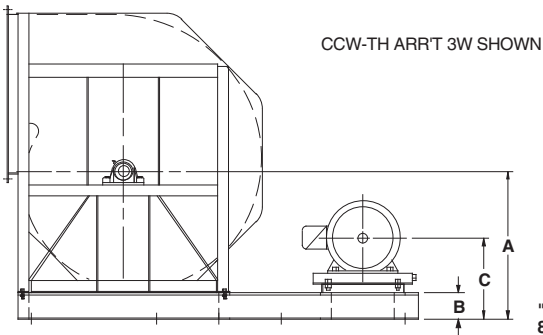


NOTES:  
 BELT C/D = "N" DIMENSION  
 ARR'T 3R UNITARY BASE  
 MOTOR POSITION "W"  
 CHANNEL: 6 x 2.497 x .310  
 6" - 12#  
 ARR'T 3W SHOWN,  
 ARR'T 3Z IS MIRROR IMAGE

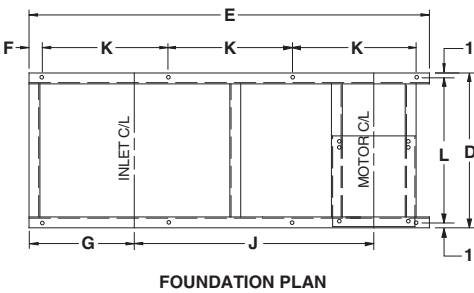


FAN SIZE	FRAME SIZE	CCW-TH						C	D	E	F	G	H	J	K	L	M	CCW-TH						APPROX. WT. #		
		CCW-TH	CCW-TAU	CCW-UB	CCW-BAU	CCW-BH	CCW-TAD											N	N	N	N	N	N	N	N	CLASS 1 & 2
365	254T	34	36	39	41	46	39	6	16 <sup>1</sup> / <sub>16</sub>	85	3	21 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>2</sub>	50 <sup>1</sup> / <sub>2</sub>	39 <sup>1</sup> / <sub>2</sub>	33 <sup>3</sup> / <sub>8</sub>	%	53.8	53.8	54.5	55.7	56.5	58.8	55.7	1820	2042
	256T																	1850	2072							
	284T																	1965	2187							
	286T																	2015	2237							
	324T																	2153	2375							
	326T																	2218	2440							
	364T																	2382	2604							
	365T																	2442	2664							
	404T																	2742	2964							
	405T																	2842	3064							
444T	3135	3357																								
445T	3310	3532																								
402	254T	37	39	42	44	49	41	6	16 <sup>1</sup> / <sub>16</sub>	90	3	23 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>2</sub>	54 <sup>1</sup> / <sub>2</sub>	42	36 <sup>3</sup> / <sub>8</sub>	%	58.3	58.3	59.0	60.2	61.1	63.5	59.8	2120	2358
	256T																	2150	2388							
	284T																	2264	2502							
	286T																	2314	2552							
	324T																	2455	2693							
	326T																	2520	2758							
	364T																	2682	2920							
	365T																	2742	2980							
	404T																	3041	3279							
	405T																	3141	3379							
444T	3437	3675																								
445T	3612	3850																								

## BCA/BCS-445-600 ARRANGEMENT 3 SWSI UNITARY

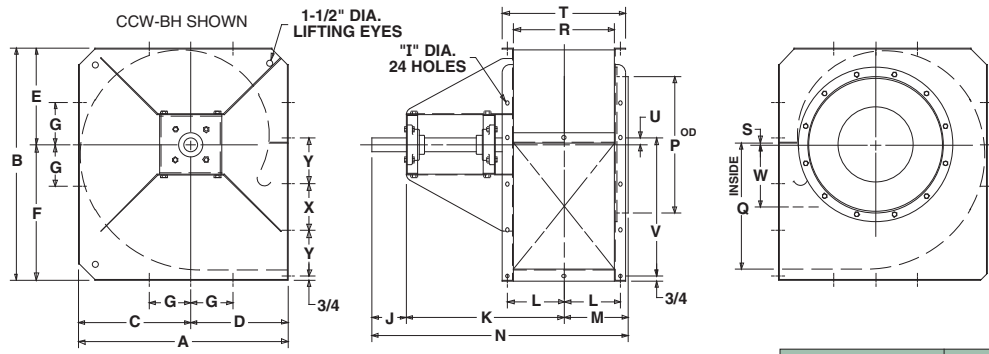


NOTES:  
 BELT C/D = "N" DIMENSION  
 ARR'T 3R UNITARY BASE  
 MOTOR POSITION "W"  
 CHANNEL: 8 x 2.978 x .353  
 8" - 18.7#  
 ARR'T 3W SHOWN,  
 ARR'T 3Z IS MIRROR IMAGE



FAN SIZE	FRAME SIZE	CCW-TH						C	D	E	F	G	J	K	L	M	CCW-TH						APPROX. WT. #	
		CCW-TH	CCW-TAU	CCW-UB	CCW-BAU	CCW-BH	CCW-TAD										N	N	N	N	N	N	N	CLASS 1 & 2
445	324T	42	45	48	50	55	45	8	20 <sup>1</sup> / <sub>16</sub>	106	5	28 <sup>1</sup> / <sub>4</sub>	64 <sup>1</sup> / <sub>2</sub>	32	39 <sup>1</sup> / <sub>8</sub>	%	68.3	69.3	70.4	71.2	73.4	69.3	2915	3123
	326T																2980	3188						
	364T																3147	3355						
	365T																3207	3415						
	404T																3506	3714						
	405T																3606	3814						
	444T																3901	4109						
	445T																4076	4284						
	447T																4640	4848						
	447T																4640	4848						
490	324T	45	48	51	54	62	52	8	20 <sup>1</sup> / <sub>16</sub>	112	5	32 <sup>1</sup> / <sub>2</sub>	72 <sup>1</sup> / <sub>2</sub>	37	43 <sup>1</sup> / <sub>4</sub>	%	70.9	72.6	73.2	75.1	78.9	74.2	3506	3888
	326T																3571	3953						
	364T																3738	4120						
	365T																3798	4180						
	404T																4107	4489						
	405T																4207	4589						
	444T																4511	4893						
	445T																4686	5068						
	447T																5249	5631						
	447T																5249	5631						
542	324T	49	53	56	59	67	55	8	20 <sup>1</sup> / <sub>16</sub>	121	5	35	73 <sup>1</sup> / <sub>2</sub>	37	47 <sup>1</sup> / <sub>8</sub>	%	78.4	80.0	81.2	82.6	86.6	80.8	3964	4442
	326T																4029	4507						
	364T																4196	4674						
	365T																4256	4734						
	404T																4555	5033						
	405T																4655	5133						
	444T																4959	5437						
	445T																5134	5612						
	447T																5698	6176						
	447T																5698	6176						
600	324T	54	57	61	65	73	64	8	20 <sup>1</sup> / <sub>16</sub>	127	5	40	74 <sup>1</sup> / <sub>2</sub>	39	52	%	81.3	82.5	84.4	86.4	90.7	85.5	4410	5004
	326T																4476	5070						
	364T																4642	5236						
	365T																4703	5297						
	404T																5005	5599						
	405T																5106	5700						
	444T																5411	6005						
	445T																5588	6182						
	447T																5933	6527						
	447T																5933	6527						

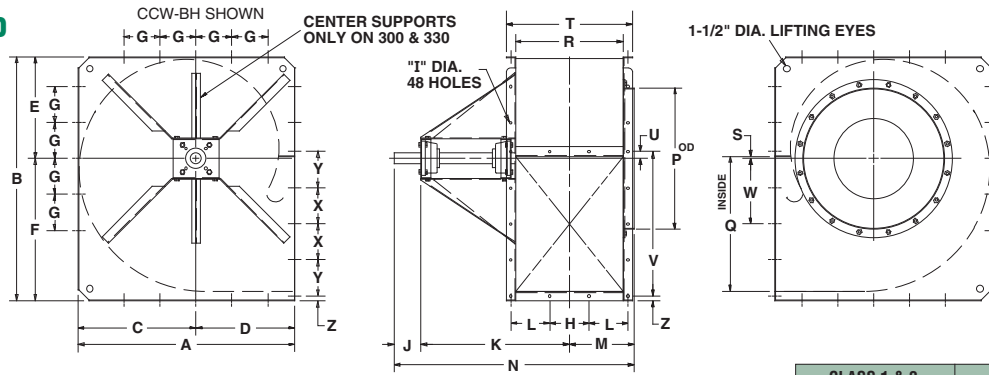
**QBCA/QBCS-122-200  
ARRANGEMENT 1**



FAN SIZE	A	B	C	D	E	F	G	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	CLASS 1 & 2		CLASS 3			
	SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR	SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR																							
122	20 7/8	23	10 7/8	10	9 3/8	13 5/8	5 1/2	7/16	3 1/2	16 3/4	5 3/4	6 3/8	26 3/16	13 3/8	12 3/16	9 3/4	1/8	13	15 1/16	13 13/16	5 3/32	4 9/16	4 5/8	1 3/16	1/4 x 1/8	98	1 7/16	3/8 x 3/16	114
135	22 5/16	25 3/16	11 5/16	11	10 5/16	14 7/8	5 1/2	7/16	3 1/2	17 19/32	6 7/32	7 1/32	28 1/8	14 3/8	13 1/16	10 1/16	5/32	13 5/16	3 1/32	15 1/16	6 3/16	5 1/16	5	1 1/16	1/4 x 1/8	111	1 7/16	3/8 x 3/16	128
150	25 1/4	27 3/16	13 3/4	12	11 7/16	16 3/8	5 1/2	7/16	3 1/2	18 23/32	6 27/32	7 21/32	29 7/8	16 1/2	15	11 5/16	7/32	15 3/16	1 1/32	16 3/8	7 3/32	5 5/8	5 1/2	1 3/16	1/4 x 1/8	132	1 7/16	3/8 x 3/16	152
165	27 3/16	30 3/8	14 9/16	13	12 3/16	17 13/16	6 1/2	9/16	4	21 1/16	7 7/16	8 1/4	33 11/16	17 1/2	16 3/8	13 3/8	7/32	16 3/8	1 1/32	18 1/8	7 3/32	6 1/8	6	1 7/16	3/8 x 3/16	198	1 11/16	3/8 x 3/16	229
182	30 1/16	33 3/8	16 1/16	14	13 13/16	19 9/16	6 1/2	9/16	4	22 5/8	8 1/8	9	35 5/8	19 1/2	18 1/8	14 1/2	7/32	17 3/4	1 1/32	19 7/8	8 27/32	6 5/8	6 5/8	1 7/16	3/8 x 3/16	231	1 11/16	3/8 x 3/16	263
200	32 3/16	36 3/8	17 3/16	15	15 1/8	21 1/4	6 1/2	9/16	4	24 3/16	8 3/16	9 11/16	37 7/8	21 1/2	19 3/8	15 3/8	1/4	19 1/8	1 1/8	21 1/8	9 11/16	7 3/8	7 1/4	1 7/16	3/8 x 3/16	265	1 15/16	1/2 x 1/4	311

\*FAN WEIGHT IS APPROXIMATE

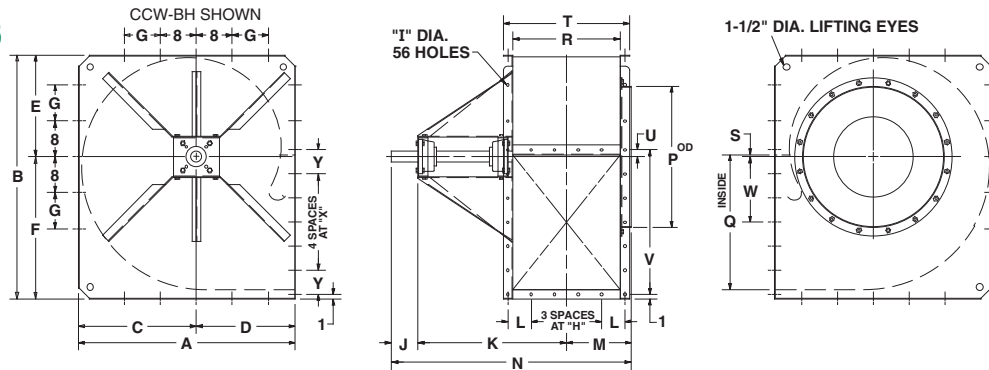
**QBCA/QBCS-222-330  
ARRANGEMENT 1**



FAN SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	CLASS 1 & 2		CLASS 3			
	SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR	SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR																									
222	35 1/2	40 5/16	19 1/2	16	16 13/16	23 1/2	6 1/2	6 7/16	9/16	5	26 7/32	6 1/2	10 9/32	41 1/8	23 1/2	22 1/8	17 1/16	9/32	20 5/16	1 3/32	23 3/8	10 29/32	6	5 5/16	3/4	1 11/16	3/8 x 3/16	337	1 15/16	1/2 x 1/4	380
245	39 1/2	44 3/4	21 1/2	18	18 1/2	26 1/4	6 1/2	7 3/16	9/16	5	27 19/32	7 1/4	11 31/32	44 9/16	26 1/2	24 7/16	19 1/16	1 1/32	23 11/16	1 19/32	26 11/16	11 1/8	6 29/32	6 3/8	1	1 11/16	3/8 x 3/16	408	2 3/16	1/2 x 1/4	473
270	43 3/8	49 1/8	23 3/8	19 1/2	20 3/8	28 11/16	6 1/2	7 5/16	9/16	6	29 19/32	7 7/8	12 31/32	48 5/8	28 1/2	26 5/16	21 1/8	1 3/32	25 5/16	1 1/32	29 3/16	13 3/16	7 11/32	7 1/4	1	1 11/16	3/8 x 3/16	469	2 3/16	1/2 x 1/4	542
300	48 1/4	54 1/4	26 1/4	22	22 5/8	31 5/8	8	8 11/16	9/16	6	33 1/32	8 11/16	14 3/32	53 3/8	31 1/2	29 15/16	23 3/16	7/16	28 1/16	1 1/16	32 3/8	14 1/32	7 3/32	8 1/8	1	1 15/16	1/2 x 1/4	634	2 7/16	5/8 x 3/16	727
330	52 13/16	59 3/8	28 3/16	24	24 13/16	34 3/8	8	9 1/16	9/16	6 1/2	36 3/32	9 1/2	15 1/32	58 1/8	34 1/2	33	26 3/8	1 1/32	30 3/8	1 21/32	35 1/4	15 31/32	8 3/8	8 3/8	1	2 3/16	1/2 x 1/4	772	2 11/16	5/8 x 5/16	954

\*FAN WEIGHT IS APPROXIMATE

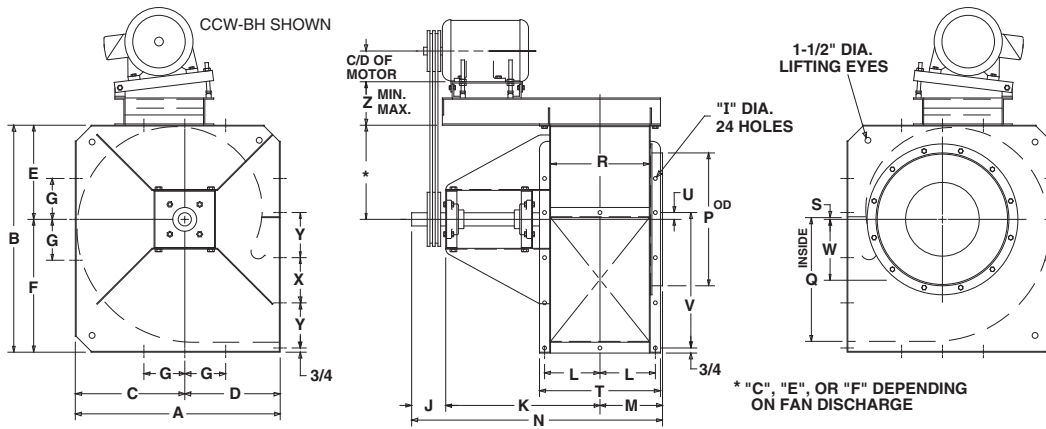
**QBCA/QBCS-365-445  
ARRANGEMENT 1**



FAN SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	CLASS 1 & 2		CLASS 3		
	SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR	SHAFT DIA	KEYWAY	FAN WT.* NO MOTOR																								
365	58 3/8	65 1/2	31 3/8	27	27 3/8	38 1/8	8	6 1/4	1 1/16	6 1/2	37 1/16	6 1/4	16 13/16	61	37 1/2	36 1/2	29	1 3/16	33 3/4	1 1/16	38 3/4	17 1/16	6 1/2	6 3/8	2 1/16	5/8 x 3/16	1057	2 11/16	5/8 x 5/16	1201
402	65 1/8	72	35 3/8	30	30 1/4	41 3/4	16	6 3/16	1 1/16	7	40 3/32	6 3/8	18 3/32	65 1/8	41 1/2	40 3/8	31 3/16	1 5/16	36 3/8	1 13/16	42 3/8	19 5/32	7 3/32	7 3/32	2 11/16	5/8 x 3/16	1332	2 5/16	3/4 x 3/8	1459
445	71 13/16	79 1/16	38 13/16	33	33 3/16	46	16	7 1/2	1 1/16	7	41 27/32	7 1/32	19 31/32	68 13/16	45 1/2	44 3/8	35 3/16	3/32	39 3/8	1 27/32	46 13/16	21 3/8	7 13/16	7 3/32	2 11/16	5/8 x 3/16	1543	2 5/16	3/4 x 3/8	1699

\*FAN WEIGHT IS APPROXIMATE

**QBQA/QBCS-122-200  
ARRANGEMENT 9**



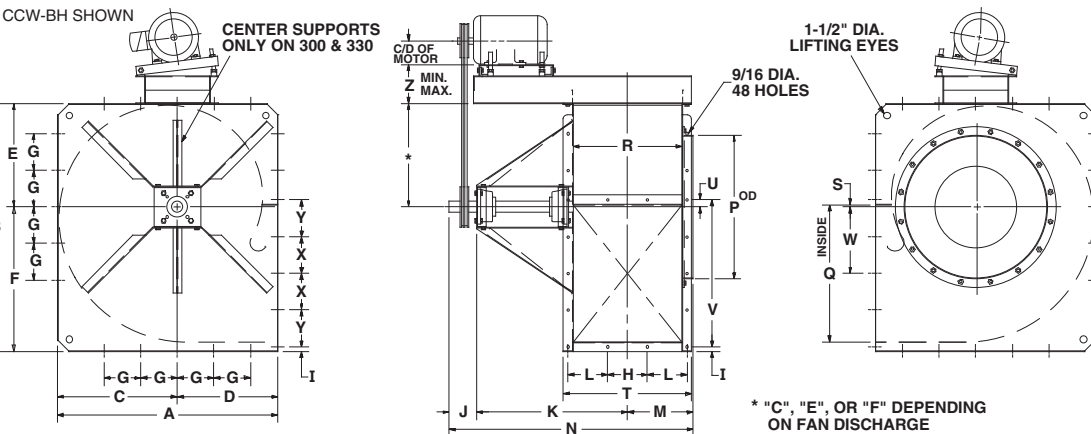
APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
48	25
56	34
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440

**APPROXIMATE FAN WEIGHT NO MOTOR**

FAN SIZE	CLASS 1 & 2				CLASS 3			
	SHAFT DIA	KEYWAY	WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE	SHAFT DIA	KEYWAY	WITH H.D. MOTOR BASE	WITH STD. MOTOR BASE
122	1 3/16	1/4 x 1/8	124	134	1 1/16	3/8 x 3/16	140	150
135	1 3/16	1/4 x 1/8	138	148	1 1/16	3/8 x 3/16	155	165
150	1 3/16	1/4 x 1/8	160	170	1 1/16	3/8 x 3/16	180	190
165	1 7/16	3/8 x 3/16	230	263	1 1 1/16	3/8 x 3/16	261	294
182	1 7/16	3/8 x 3/16	264	297	1 1 1/16	3/8 x 3/16	296	329
200	1 7/16	3/8 x 3/16	299	333	1 1 1/16	1/2 x 1/4	345	379

**STD. MOTOR BASE H.D. MOTOR BASE**

FAN SIZE	A		B		C		D		E		F		G		I		J		K		L		M		N		P		Q		R		S		T		U		V		W		X		Y		Z		Z		FRAME SIZES RANGE	H.D. MOTOR BASE		FRAME SIZES RANGE
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.										
122	20 3/8	23	10 7/8	10	9 3/8	13 3/8	5 1/2	7/16	3 1/2	16 3/4	5 3/4	6 1/8	26 1/8	13 3/4	12 3/16	9 3/4	1/8	13	1 1/8	13 1/8	5 3/32	4 1/8	4 3/8	5 1/4	7 1/4	48-213T	6 1/4	8 1/4	182T-256T																									
135	22 5/16	25 3/16	11 11/16	11	10 5/16	14 3/8	5 1/2	7/16	3 1/2	17 9/32	6 7/32	7 1/32	28 1/8	14 3/8	13 3/16	10 11/16	5/32	13 5/16	3/32	15 1/16	6 1/8	5 1/16	5	5 1/4	7 1/4	48-213T	6 1/4	8 1/4	182T-256T																									
150	25 1/4	27 3/16	13 1/4	12	11 1/16	16 3/8	5 1/2	7/16	3 1/2	18 29/32	6 21/32	7 21/32	29 1/8	16 1/2	15	11 5/16	7/32	15 3/4	1 1/32	16 3/8	7 9/32	5 5/8	5 1/2	5 1/4	7 1/4	48-213T	6 1/4	8 1/4	182T-256T																									
165	27 3/8	30 3/8	14 3/8	13	12 9/16	17 3/8	6 1/2	9/16	4	21 1/8	7 7/8	8 1/4	33 1/16	17 1/2	16 3/8	13 1/8	7/32	16 3/8	1 1/32	18 1/8	7 31/32	6 1/8	6	6 1/4	8 1/4	56-215T	8 1/4	10	143T-286T																									
182	30 1/8	33 3/8	16 1/8	14	13 13/16	19 1/8	6 1/2	9/16	4	22 3/8	8 1/8	9	35 3/16	19 1/2	18 1/8	14 1/2	7/32	17 3/4	1 1/32	19 1/8	8 23/32	6 3/8	6 1/8	6 1/4	8 1/4	56-215T	8 1/4	10	143T-286T																									
200	32 3/8	36 3/8	17 3/8	15	15 1/4	21 1/4	6 1/2	9/16	4	24 3/16	8 3/8	9 1/8	37 7/8	21 1/2	19 3/8	15 3/8	1/4	19 3/8	1 1/8	21 3/8	9 1/16	7 3/4	7 1/4	6 1/4	8 1/4	56-215T	8 1/4	10	143T-286T																									



**QBQA/QBCS-222-330  
ARRANGEMENT 9**

APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440
324T	555
326T	620

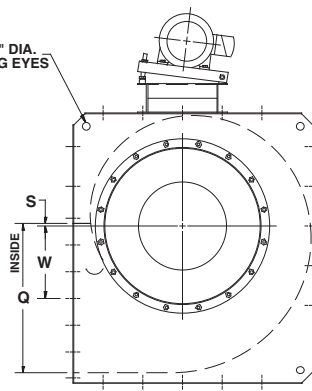
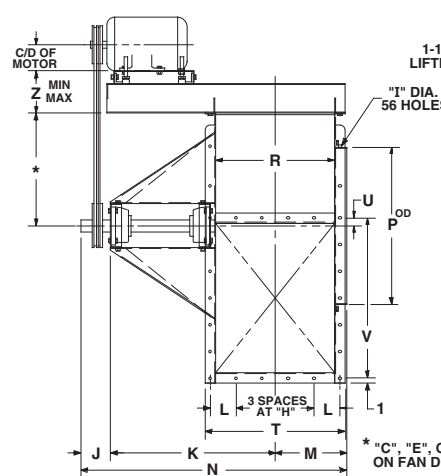
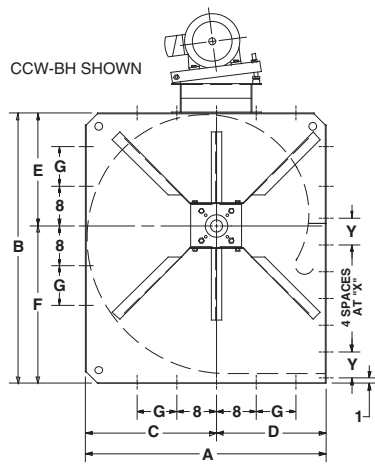
**APPROXIMATE FAN WEIGHT NO MOTOR**

FAN SIZE	CLASS 1 & 2				CLASS 3			
	SHAFT DIA	KEYWAY	WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE	SHAFT DIA	KEYWAY	WITH H.D. MOTOR BASE	WITH STD. MOTOR BASE
222	1 1 1/16	3/8 x 3/16	380	408	1 1 1/16	1/2 x 1/4	423	451
245	1 1 1/16	3/8 x 3/16	452	497	2 3/16	1/2 x 1/4	517	562
270	1 1 1/16	3/8 x 3/16	515	560	2 3/16	1/2 x 1/4	588	633
300	1 5/16	1/2 x 1/4	715	747	2 7/16	3/8 x 5/16	808	840
330	2 3/16	1/2 x 1/4	857	926	2 1 1/16	3/8 x 5/16	1039	1108

**STD. MOTOR BASE H.D. MOTOR BASE**

FAN SIZE	A		B		C		D		E		F		G		H		I		J		K		L		M		N		P		Q		R		S		T		U		V		W		X		Y		Z		Z		FRAME SIZES RANGE	H.D. MOTOR BASE		FRAME SIZES RANGE
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.												
222	35 1/2	40 3/16	19 1/2	16	16 13/16	23 1/2	6 1/2	6 1/16	3/4	5	26 3/32	6 1/2	10 9/32	41 3/16	23 1/2	22 1/8	17 1/16	9/32	20 5/16	1 5/32	23 3/8	10 25/32	6	5 5/16	6 1/4	8 1/4	182T-256T	8 1/4	10	143T-286T																										
245	39 1/2	44 3/4	21 1/2	18	18 1/2	26 1/4	6 1/2	7 3/16	1	5	27 7/32	7 1/4	11 39/32	44 3/16	26 1/2	24 1/16	19 1/16	1 1/32	23 1 1/16	1 5/32	26 1 1/16	11 1/8	6 23/32	6 3/8	6 1/4	8 1/4	182T-256T	10 1/4	12	143T-326T																										
270	43 1/8	49 1/16	23 3/8	19 1/2	20 3/8	28 1 1/8	6 1/2	7 5/16	1	6	29 19/32	7 7/8	12 23/32	48 3/16	28 1/2	26 5/16	21 1/16	1 3/32	25 1 1/16	1 1/32	29 3/16	13 1/16	7 11/32	7 1/4	6 1/4	8 1/4	182T-256T	10 1/4	12	143T-326T																										
300	48 1/4	54 1/4	26 1/4	22	22 3/8	31 1/8	8	8 1/16	1	6	33 3/32	8 1 1/8	14 3/32	53 3/16	31 1/2	29 1/16	23 3/16	7/16	28 1 1/16	1 1/16	32 3/8	14 7/32	7 31/32	8 1/8	8 1/4	10	143T-286T	10 1/4	12	143T-326T																										
330	52 1/16	59 3/8	28 3/8	24	24 13/16	34 3/8	8	9 1/16	1	6 1/2	36 7/32	9 1/2	15 1 1/32	58 1/16	34 1/2	33	26 3/16	1 7/32	30 7/16	1 21/32	35 1/4	15 31/32	8 3/8	8 3/8	8 1/4	10	143T-286T	10 1/4	12	143T-326T																										

### QBGA/QBCS-365-445 ARRANGEMENT 9

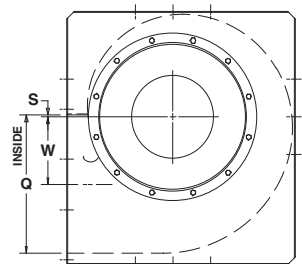
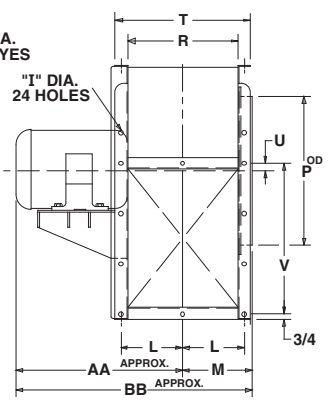
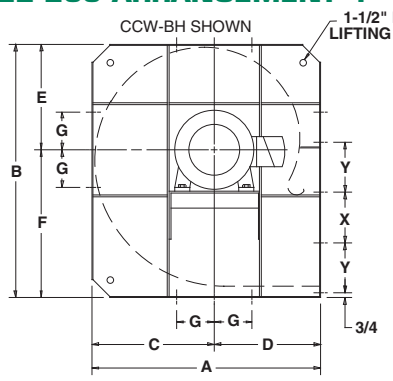


APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440
324T	555
326T	620

FAN SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	STD. MOTOR BASE		H.D. MOTOR BASE		
																										MIN	MAX	MIN	MAX	
365	58 7/16	65 1/2	31 7/8	27	27 1/16	38 1/16	8	6 1/4	1 1/16	6 1/2	37 1/16	6 1/4	16 3/16	61	37 1/2	36 1/2	29	1 3/16	33 1/4	1 1/16	38 3/4	17 1/16	6 1/2	6 3/8	8 1/4	10	143T-286T	10 1/4	12	143T-326T
402	65 1/16	72	35 1/8	30	30 1/4	41 3/4	16	6 5/8	1 1/16	7	40 5/32	6 7/8	18 5/32	65 7/16	41 1/2	40 5/16	31 1/16	1 5/8	36 3/16	1 1/16	42 3/16	19 5/32	7 3/32	7 3/32	8 1/4	10	143T-286T	10 1/4	12	143T-326T
445	71 1/16	79 1/16	38 3/8	33	33 3/16	46	16	7 1/2	1 1/16	7	41 2/32	7 1/32	19 3/32	68 3/16	45 1/2	44 3/16	35 3/16	3 1/32	39 3/16	1 2/32	46 3/16	21 1/16	7 1/16	7 5/32	8 1/4	10	143T-286T	10 1/4	12	143T-326T

FAN SIZE	APPROXIMATE FAN WEIGHT NO MOTOR							
	SHAFT DIA.	KEYWAY	CLASS 1 & 2		CLASS 3			
			WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE	WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE		
365	2 7/16	5/8 x 5/16	1145	1215	2 1/16	5/8 x 5/16	1289	1359
402	2 1/16	5/8 x 5/16	1424	1496	2 15/16	3/4 x 3/8	1551	1623
445	2 1/16	5/8 x 5/16	1638	1713	2 5/16	3/4 x 3/8	1794	1869

### QBGA/QBCS-122-200 ARRANGEMENT 4



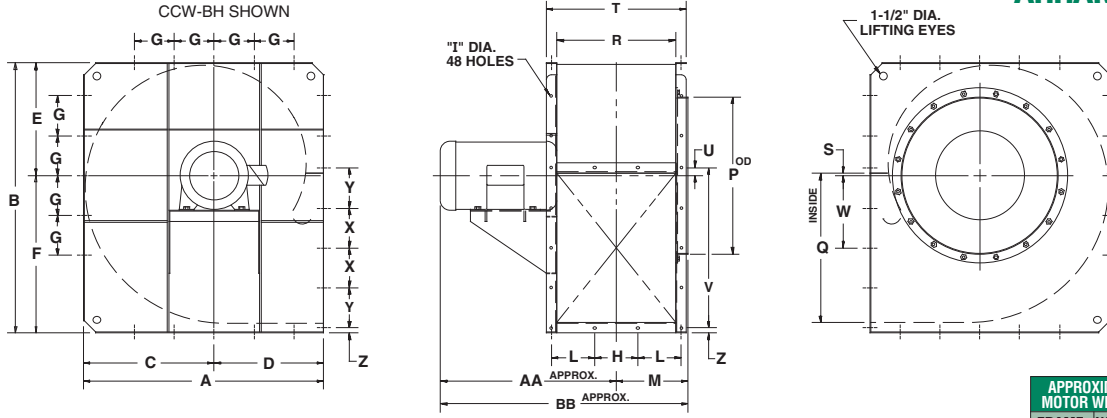
APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
56	34
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290

FAN SIZE	A	B	C	D	E	F	G	I	L	M	P	Q	R	S	T	U	V	W	X	Y
122	20 7/8	23	10 7/8	10	9 3/8	13 5/8	5 1/2	7/16	5 3/4	6 3/16	13 3/8	12 3/16	9 3/4	1/8	13	1 5/16	13 1/16	5 3/32	4 9/16	4 5/8
135	22 5/16	25 3/16	11 5/16	11	10 5/16	14 7/8	5 1/2	7/16	6 5/32	7 1/32	14 3/8	13 1/16	10 1/16	5/32	13 5/16	3/32	15 1/16	6 7/16	5 1/16	5
150	25 1/4	27 3/16	13 3/4	12	11 1/16	16 3/8	5 1/2	7/16	6 27/32	7 23/32	16 1/2	15	11 15/16	7/32	15 3/16	1 1/32	16 5/16	7 5/32	5 5/8	5 1/2
165	27 5/16	30 3/8	14 9/16	13	12 3/8	17 1/16	6 1/2	9/16	7 1/16	8 1/4	17 1/2	16 3/8	13 1/8	7/32	16 3/8	1 3/32	18 1/8	7 3/32	6 1/8	6
182	30 1/16	33 3/8	16 1/16	14	13 3/16	19 1/8	6 1/2	9/16	8 1/8	9	19 1/2	18 1/8	14 1/2	7/32	17 3/4	1 3/32	19 1/8	8 27/32	6 5/8	6 5/8
200	32 1/16	36 3/8	17 1/8	15	15 1/8	21 1/4	6 1/2	9/16	8 3/16	9 1/16	21 1/2	19 7/8	15 7/8	1/4	19 1/8	1 1/8	21 1/8	9 1/16	7 1/8	7 1/4

FAN SIZE	MOTOR FRAME SIZES																	
	56		143T		145T		182T		184T		213T		215T		254T		256T	
	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB
122	15 1/2	22 1/16	14 1/16	21 1/4	15 1/16	22 1/4	16 5/8	23 3/16	17 5/8	24 3/16	19 1/4	25 3/16	20 1/16	27 3/8	N/A	N/A	N/A	N/A
135	16	23 1/32	15 3/16	22 3/32	16 3/16	23 3/32	17 1/8	24 3/32	18 1/16	25 3/32	19 3/4	26 29/32	21 1/4	28 3/32	N/A	N/A	N/A	N/A
150	16 5/8	24 5/32	15 3/8	23 5/32	16 3/8	24 5/32	17 1/8	25 1/16	18 1/16	26 1/16	20 3/8	28 1/32	21 7/8	29 17/32	N/A	N/A	N/A	N/A
165	17 3/16	25 1/8	16 3/8	24 1/8	17 3/8	25 1/8	18 3/8	26 3/8	19 3/8	27 3/8	21	29 1/4	22 1/2	30 3/4	25 1/4	33 1/2	27	35 1/4
182	17 7/8	26 3/8	17 1/8	26 1/8	18 1/8	27 1/8	19	28	20	29 1/4	30 1/8	23 3/8	32 3/8	25 5/16	34 1/16	27 1/16	36 1/16	36 1/16
200	18 9/16	28 1/4	17 3/4	27 1/16	18 3/4	28 7/16	19 3/16	29 3/16	20 1/16	30 3/16	22 3/8	32 1/16	23 3/8	33 3/16	26 3/8	36 3/8	28 3/8	38 1/16

FAN SIZE	APPROXIMATE FAN WEIGHTS NO MOTOR											
	56/143/145T CLASS			182/184T CLASS			213/215T CLASS			254/256T CLASS		
	1 & 2	3	3	1 & 2	3	3	1 & 2	3	1 & 2	3	1 & 2	3
122	97	110	99	112	104	116	N/A	N/A	N/A	N/A	N/A	N/A
135	108	117	109	120	114	123	N/A	N/A	N/A	N/A	N/A	N/A
150	128	140	129	141	134	146	N/A	N/A	N/A	N/A	N/A	N/A
165	177	192	178	193	183	198	199	214				
182	207	223	209	224	213	229	229	245				
200	237	258	239	260	244	264	259	280				

**QBCA/QBCS-222-330  
ARRANGEMENT 4**



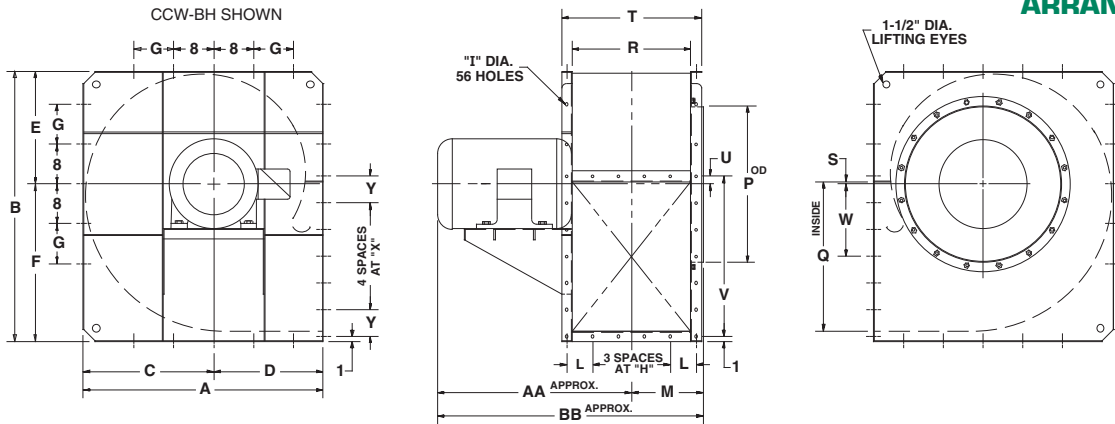
APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440
324T	555
326T	620

FAN SIZE	A	B	C	D	E	F	G	H	I	L	M	P	Q	R	S	T	U	V	W	X	Y	Z
222	35 $\frac{1}{2}$	40 $\frac{3}{4}$	19 $\frac{1}{2}$	16	16 $\frac{3}{16}$	23 $\frac{1}{2}$	6 $\frac{1}{2}$	6 $\frac{7}{16}$	$\frac{9}{16}$	6 $\frac{1}{2}$	10 $\frac{5}{16}$	23 $\frac{1}{2}$	22 $\frac{1}{2}$	17 $\frac{1}{16}$	$\frac{9}{32}$	20 $\frac{1}{16}$	1 $\frac{1}{32}$	23 $\frac{1}{8}$	10 $\frac{29}{32}$	6	5 $\frac{1}{16}$	$\frac{3}{4}$
245	39 $\frac{1}{2}$	44 $\frac{3}{4}$	21 $\frac{1}{2}$	18	18 $\frac{1}{2}$	26 $\frac{1}{4}$	6 $\frac{1}{2}$	7 $\frac{3}{16}$	$\frac{9}{16}$	7 $\frac{1}{4}$	11 $\frac{3}{32}$	26 $\frac{1}{2}$	24 $\frac{1}{2}$	19 $\frac{1}{16}$	$\frac{1}{32}$	23 $\frac{1}{16}$	1 $\frac{1}{32}$	26 $\frac{1}{16}$	11 $\frac{1}{8}$	6 $\frac{23}{32}$	6 $\frac{5}{8}$	1
270	43 $\frac{1}{2}$	49 $\frac{1}{16}$	23 $\frac{3}{8}$	19 $\frac{1}{2}$	20 $\frac{3}{8}$	28 $\frac{1}{16}$	6 $\frac{1}{2}$	7 $\frac{5}{16}$	$\frac{9}{16}$	7 $\frac{7}{8}$	12 $\frac{3}{32}$	28 $\frac{1}{2}$	26 $\frac{3}{16}$	21 $\frac{1}{16}$	$\frac{1}{32}$	25 $\frac{1}{16}$	1 $\frac{1}{32}$	29 $\frac{3}{16}$	13 $\frac{1}{16}$	7 $\frac{1}{32}$	7 $\frac{1}{4}$	1
300	48 $\frac{1}{4}$	54 $\frac{1}{4}$	26 $\frac{1}{4}$	22	22 $\frac{3}{8}$	31 $\frac{1}{8}$	8	8 $\frac{1}{16}$	$\frac{9}{16}$	8 $\frac{1}{16}$	14 $\frac{3}{32}$	31 $\frac{1}{2}$	29 $\frac{1}{4}$	23 $\frac{3}{16}$	$\frac{7}{16}$	28 $\frac{1}{16}$	1 $\frac{1}{16}$	32 $\frac{3}{16}$	14 $\frac{1}{32}$	7 $\frac{3}{32}$	8 $\frac{1}{8}$	1
330	52 $\frac{3}{16}$	59 $\frac{3}{8}$	28 $\frac{3}{16}$	24	24 $\frac{1}{16}$	34 $\frac{3}{16}$	8	9 $\frac{1}{16}$	$\frac{9}{16}$	9 $\frac{1}{2}$	15 $\frac{1}{32}$	34 $\frac{1}{2}$	33	26 $\frac{3}{16}$	$\frac{1}{32}$	30 $\frac{1}{16}$	1 $\frac{2}{32}$	35 $\frac{1}{4}$	15 $\frac{3}{32}$	8 $\frac{1}{16}$	8 $\frac{3}{16}$	1

		MOTOR FRAME SIZES																			
		182T		184T		213T		215T		254T		256T		284T		286T		324T		326T	
FAN SIZE		AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB
222		20 $\frac{1}{16}$	31 $\frac{1}{32}$	21 $\frac{1}{16}$	32 $\frac{3}{32}$	23 $\frac{1}{4}$	33 $\frac{3}{32}$	24 $\frac{3}{4}$	35 $\frac{1}{32}$	27 $\frac{1}{32}$	38 $\frac{1}{8}$	29 $\frac{3}{16}$	39 $\frac{3}{8}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
245		21 $\frac{1}{16}$	33 $\frac{1}{32}$	22 $\frac{1}{16}$	34 $\frac{3}{32}$	24 $\frac{1}{8}$	36 $\frac{3}{32}$	25 $\frac{3}{8}$	37 $\frac{3}{32}$	28 $\frac{3}{32}$	40 $\frac{3}{8}$	30 $\frac{3}{32}$	42 $\frac{1}{8}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
270		22 $\frac{1}{16}$	34 $\frac{1}{32}$	23 $\frac{1}{16}$	36 $\frac{3}{32}$	25 $\frac{3}{8}$	38 $\frac{3}{32}$	26 $\frac{3}{8}$	39 $\frac{3}{32}$	29 $\frac{3}{32}$	42 $\frac{3}{8}$	31 $\frac{3}{16}$	44 $\frac{1}{8}$	32 $\frac{27}{32}$	45 $\frac{3}{16}$	34 $\frac{1}{32}$	47 $\frac{3}{16}$	N/A	N/A	N/A	N/A
300		N/A	N/A	26 $\frac{3}{16}$	40 $\frac{1}{32}$	27 $\frac{1}{16}$	41 $\frac{3}{32}$	30 $\frac{3}{32}$	44 $\frac{3}{8}$	32 $\frac{1}{32}$	46 $\frac{1}{4}$	34 $\frac{1}{32}$	48 $\frac{3}{16}$	35 $\frac{1}{32}$	49 $\frac{1}{16}$	36 $\frac{3}{32}$	50 $\frac{3}{16}$	37 $\frac{29}{32}$	52 $\frac{1}{16}$	37 $\frac{29}{32}$	52 $\frac{1}{16}$
330		N/A	N/A	27 $\frac{1}{2}$	42 $\frac{2}{32}$	29	44 $\frac{1}{32}$	31 $\frac{3}{32}$	47 $\frac{1}{8}$	33 $\frac{1}{32}$	48 $\frac{3}{8}$	35 $\frac{3}{32}$	50 $\frac{3}{16}$	36 $\frac{2}{32}$	52 $\frac{1}{16}$	37 $\frac{1}{32}$	52 $\frac{1}{16}$	39 $\frac{3}{32}$	54 $\frac{1}{16}$	39 $\frac{3}{32}$	54 $\frac{1}{16}$

		APPROXIMATE FAN WEIGHT NO MOTOR									
		182/184T		213/215T		254/256T		284/286T		324/326T	
FAN SIZE		CLASS 1 & 2	CLASS 3	CLASS 1 & 2	CLASS 3	CLASS 1 & 2	CLASS 3	CLASS 1 & 2	CLASS 3	CLASS 1 & 2	CLASS 3
222		295	321	300	326	315	341	N/A	N/A	N/A	N/A
245		363	395	367	400	383	416	N/A	N/A	N/A	N/A
270		419	459	424	464	440	480	447	487	N/A	N/A
300		N/A	N/A	530	582	546	598	553	605	561	613
330		N/A	N/A	629	750	645	766	652	773	661	781

**QBCA/QBCS-365-402  
ARRANGEMENT 4**



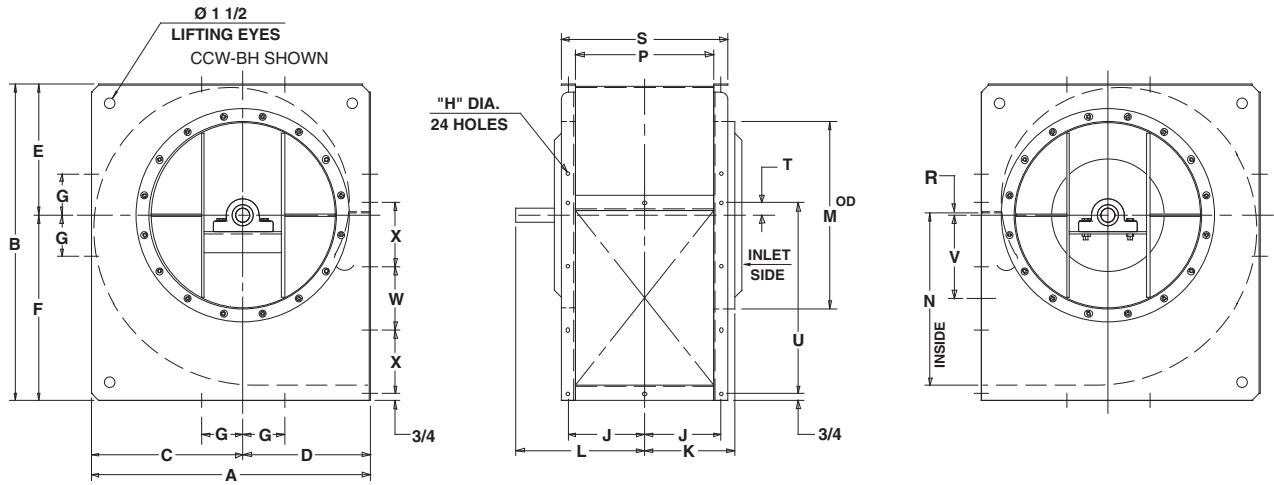
FAN SIZE	A	B	C	D	E	F	G	H	I	L	M	P	Q	R	S	T	U	V	W	X	Y
365	58 $\frac{3}{8}$	65 $\frac{1}{2}$	31 $\frac{1}{8}$	27	27 $\frac{7}{16}$	38 $\frac{1}{16}$	8	6 $\frac{1}{4}$	$\frac{11}{16}$	6 $\frac{1}{4}$	16 $\frac{1}{16}$	37 $\frac{1}{2}$	36 $\frac{1}{2}$	29	$\frac{1}{8}$	33 $\frac{1}{4}$	11 $\frac{1}{16}$	38 $\frac{3}{4}$	17 $\frac{1}{16}$	6 $\frac{1}{2}$	6 $\frac{3}{8}$
402	65 $\frac{1}{8}$	72	35 $\frac{1}{8}$	30	30 $\frac{1}{4}$	41 $\frac{1}{4}$	16	6 $\frac{3}{16}$	$\frac{11}{16}$	6 $\frac{3}{8}$	18 $\frac{3}{32}$	41 $\frac{1}{2}$	40 $\frac{3}{8}$	31 $\frac{1}{16}$	$\frac{1}{8}$	36 $\frac{3}{8}$	1 $\frac{1}{16}$	42 $\frac{3}{16}$	19 $\frac{1}{32}$	7 $\frac{3}{32}$	7 $\frac{3}{32}$

		MOTOR FRAME SIZES															
		213T		215T		254T		256T		284T		286T		324T		326T	
FAN SIZE		AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB	AA	BB
365		28 $\frac{7}{8}$	45 $\frac{1}{16}$	30 $\frac{3}{8}$	47 $\frac{3}{16}$	33 $\frac{3}{8}$	50	34 $\frac{1}{16}$	51 $\frac{1}{4}$	36 $\frac{3}{8}$	53 $\frac{1}{8}$	38 $\frac{3}{8}$	54 $\frac{1}{16}$	39	55 $\frac{1}{16}$	40 $\frac{1}{2}$	57 $\frac{3}{8}$
402		N/A				34 $\frac{3}{32}$	52 $\frac{1}{16}$	36 $\frac{3}{32}$	54 $\frac{1}{16}$	38 $\frac{3}{32}$	56 $\frac{3}{8}$	39 $\frac{3}{32}$	57 $\frac{3}{8}$	40 $\frac{1}{32}$	58 $\frac{3}{8}$	41 $\frac{1}{32}$	60 $\frac{1}{4}$

		APPROXIMATE FAN WEIGHT NO MOTOR							
		213/215T		254/256T		284/286T		324/326T	
FAN SIZE		CLASS 1 & 2	CLASS 3	CLASS 1 & 2	CLASS 3	CLASS 1 & 2	CLASS 3	CLASS 1 & 2	CLASS 3
365		890	993	906	1009	913	1016	921	1024
402		N/A	N/A	1110	1233	1117	1240	1126	1249

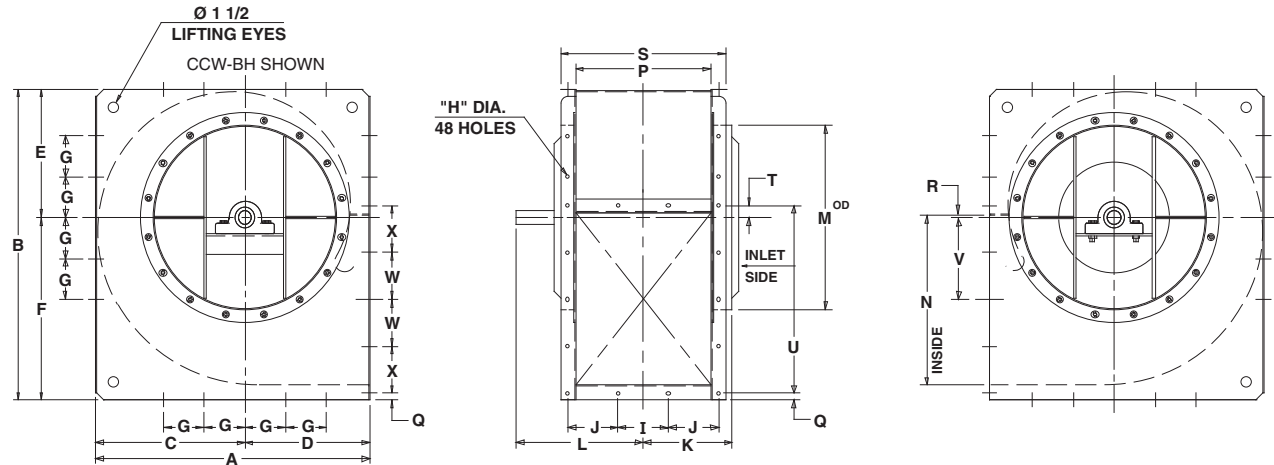
APPROXIMATE MOTOR WEIGHT	
FRAME SIZE	WEIGHT LBS.
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440
324T	555
326T	620

**QBCA/QBCS-122-200**  
**ARRANGEMENT 3 SWSI**



FAN SIZE	CLASS 1 & 2																			CLASS 3		APPROX. WEIGHT NO MOTOR (LBS.)					
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	W	X	SHAFT DIA	KEYWAY	SHAFT DIA	KEYWAY	CL 1 & 2	CL 3
122	20 $\frac{1}{2}$	23	10 $\frac{7}{8}$	10	9 $\frac{5}{8}$	13 $\frac{3}{8}$	5 $\frac{1}{2}$	7 $\frac{1}{8}$	5 $\frac{3}{4}$	6 $\frac{3}{8}$	11	13 $\frac{3}{8}$	12 $\frac{3}{8}$	9 $\frac{3}{4}$	1 $\frac{1}{2}$	13	1 $\frac{5}{8}$	13 $\frac{3}{8}$	5 $\frac{3}{8}$	4 $\frac{9}{16}$	4 $\frac{3}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$ x $\frac{1}{8}$	1 $\frac{1}{8}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	96	110
135	22 $\frac{15}{16}$	25 $\frac{3}{16}$	11 $\frac{15}{16}$	11	10 $\frac{3}{8}$	14 $\frac{1}{2}$	5 $\frac{1}{2}$	7 $\frac{1}{8}$	6 $\frac{7}{32}$	7 $\frac{1}{32}$	11 $\frac{9}{32}$	14 $\frac{3}{8}$	13 $\frac{7}{16}$	10 $\frac{11}{16}$	9 $\frac{5}{32}$	13 $\frac{9}{16}$	3 $\frac{3}{32}$	15 $\frac{1}{16}$	6 $\frac{9}{16}$	5 $\frac{1}{16}$	5	1 $\frac{3}{16}$	1 $\frac{1}{4}$ x $\frac{1}{8}$	1 $\frac{1}{8}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	110	124
150	25 $\frac{1}{4}$	27 $\frac{3}{16}$	13 $\frac{1}{4}$	12	11 $\frac{1}{8}$	16 $\frac{3}{8}$	5 $\frac{1}{2}$	7 $\frac{1}{8}$	6 $\frac{27}{32}$	7 $\frac{21}{32}$	12 $\frac{3}{32}$	16 $\frac{1}{2}$	15	11 $\frac{5}{16}$	7 $\frac{1}{32}$	15 $\frac{3}{16}$	1 $\frac{1}{32}$	16 $\frac{5}{8}$	7 $\frac{9}{32}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{3}{16}$	1 $\frac{1}{4}$ x $\frac{1}{8}$	1 $\frac{1}{8}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	132	150
165	27 $\frac{3}{16}$	30 $\frac{3}{8}$	14 $\frac{3}{16}$	13	12 $\frac{3}{16}$	17 $\frac{3}{16}$	6 $\frac{1}{2}$	9 $\frac{1}{8}$	7 $\frac{1}{16}$	8 $\frac{1}{4}$	13 $\frac{3}{16}$	17 $\frac{1}{2}$	16 $\frac{3}{8}$	13 $\frac{1}{8}$	7 $\frac{1}{32}$	16 $\frac{3}{8}$	1 $\frac{3}{32}$	18 $\frac{1}{8}$	7 $\frac{27}{32}$	6 $\frac{1}{8}$	6	1 $\frac{1}{16}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	1 $\frac{1}{16}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	194	218
182	30 $\frac{1}{16}$	33 $\frac{3}{8}$	16 $\frac{1}{16}$	14	13 $\frac{3}{16}$	19 $\frac{1}{16}$	6 $\frac{1}{2}$	9 $\frac{1}{8}$	8 $\frac{1}{8}$	9	13 $\frac{3}{8}$	19 $\frac{1}{2}$	18 $\frac{1}{8}$	14 $\frac{1}{2}$	7 $\frac{1}{32}$	17 $\frac{3}{4}$	1 $\frac{9}{32}$	19 $\frac{1}{8}$	8 $\frac{27}{32}$	6 $\frac{3}{8}$	6 $\frac{3}{8}$	1 $\frac{1}{16}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	1 $\frac{1}{16}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	226	252
200	32 $\frac{3}{16}$	36 $\frac{3}{8}$	17 $\frac{3}{8}$	15	15 $\frac{1}{8}$	21 $\frac{1}{4}$	6 $\frac{1}{2}$	9 $\frac{1}{8}$	8 $\frac{13}{16}$	9 $\frac{11}{16}$	14 $\frac{9}{16}$	21 $\frac{1}{2}$	19 $\frac{7}{8}$	15 $\frac{3}{8}$	1 $\frac{1}{4}$	19 $\frac{1}{8}$	1 $\frac{1}{8}$	21 $\frac{5}{8}$	9 $\frac{11}{16}$	7 $\frac{1}{8}$	7 $\frac{1}{4}$	1 $\frac{1}{16}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	1 $\frac{1}{16}$	3 $\frac{3}{8}$ x $\frac{3}{8}$	262	290

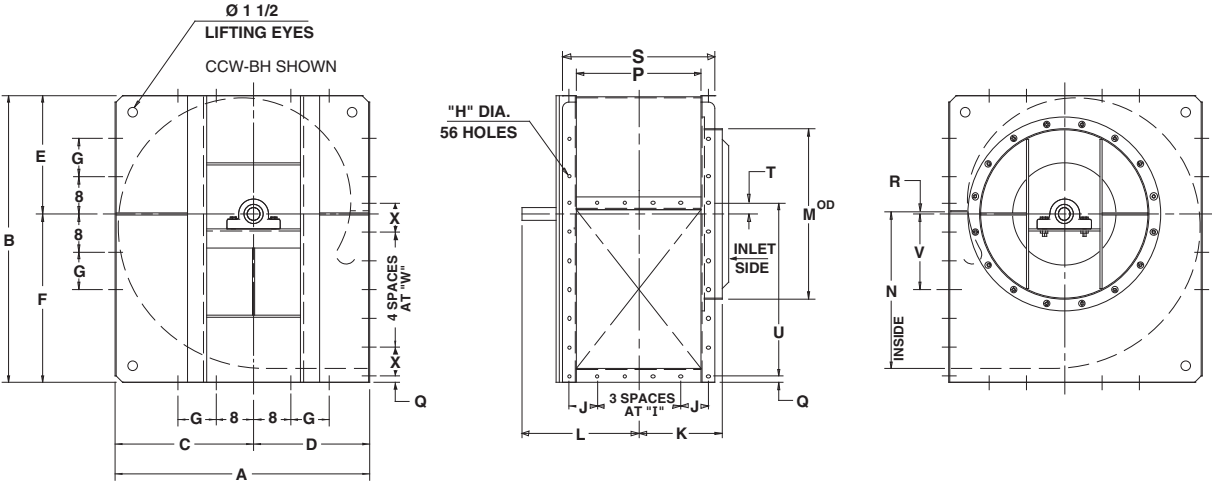
**QBCA/QBCS-222-330**  
**ARRANGEMENT 3 SWSI**



FAN SIZE	CLASS 1 & 2																			CLASS 3		APPROX. WEIGHT NO MOTOR (LBS.)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	CL 1 & 2	CL 3
222	35 $\frac{1}{2}$	40 $\frac{5}{16}$	19 $\frac{1}{2}$	16	16 $\frac{3}{16}$	23 $\frac{1}{2}$	6 $\frac{1}{2}$	9 $\frac{1}{8}$	6 $\frac{7}{16}$	6 $\frac{1}{2}$	10 $\frac{9}{32}$	16 $\frac{15}{32}$	23 $\frac{1}{2}$	22 $\frac{1}{2}$	17 $\frac{1}{16}$	3 $\frac{1}{4}$	9 $\frac{1}{32}$	20 $\frac{15}{16}$	1 $\frac{1}{32}$	23 $\frac{3}{8}$	10 $\frac{25}{32}$	6	5 $\frac{5}{16}$	358	394
245	39 $\frac{1}{2}$	44 $\frac{3}{4}$	21 $\frac{1}{2}$	18	18 $\frac{1}{2}$	26 $\frac{1}{4}$	6 $\frac{1}{2}$	9 $\frac{1}{8}$	7 $\frac{3}{16}$	7 $\frac{1}{4}$	11 $\frac{3}{32}$	17 $\frac{27}{32}$	26 $\frac{1}{2}$	24 $\frac{1}{16}$	19 $\frac{1}{16}$	1	1 $\frac{1}{32}$	23 $\frac{11}{16}$	1 $\frac{1}{32}$	26 $\frac{11}{16}$	11 $\frac{1}{8}$	6 $\frac{23}{32}$	6 $\frac{3}{8}$	438	482
270	43 $\frac{1}{8}$	49 $\frac{1}{16}$	23 $\frac{3}{8}$	19 $\frac{1}{2}$	20 $\frac{3}{8}$	28 $\frac{11}{16}$	6 $\frac{1}{2}$	9 $\frac{1}{8}$	7 $\frac{9}{16}$	7 $\frac{1}{8}$	12 $\frac{3}{32}$	19 $\frac{27}{32}$	28 $\frac{1}{2}$	26 $\frac{15}{16}$	21 $\frac{1}{16}$	1	1 $\frac{3}{32}$	25 $\frac{11}{16}$	1 $\frac{1}{32}$	29 $\frac{3}{16}$	13 $\frac{1}{16}$	7 $\frac{1}{32}$	7 $\frac{1}{4}$	482	556
300	48 $\frac{1}{4}$	54 $\frac{1}{4}$	26 $\frac{1}{4}$	22	22 $\frac{3}{8}$	31 $\frac{5}{8}$	8	9 $\frac{1}{8}$	8 $\frac{11}{16}$	8 $\frac{1}{16}$	14 $\frac{3}{32}$	21 $\frac{1}{32}$	31 $\frac{1}{2}$	29 $\frac{9}{16}$	23 $\frac{3}{16}$	1	7 $\frac{1}{16}$	28 $\frac{1}{8}$	1 $\frac{9}{16}$	32 $\frac{3}{16}$	14 $\frac{17}{32}$	7 $\frac{3}{32}$	8 $\frac{3}{8}$	660	732
330	52 $\frac{13}{16}$	59 $\frac{3}{8}$	28 $\frac{3}{16}$	24	24 $\frac{13}{16}$	34 $\frac{9}{16}$	8	9 $\frac{1}{8}$	9 $\frac{7}{16}$	9 $\frac{1}{2}$	15 $\frac{1}{32}$	22 $\frac{23}{32}$	34 $\frac{1}{2}$	33	26 $\frac{3}{16}$	1	1 $\frac{1}{32}$	30 $\frac{7}{8}$	1 $\frac{21}{32}$	35 $\frac{1}{4}$	15 $\frac{3}{32}$	8 $\frac{3}{16}$	8 $\frac{3}{16}$	778	922

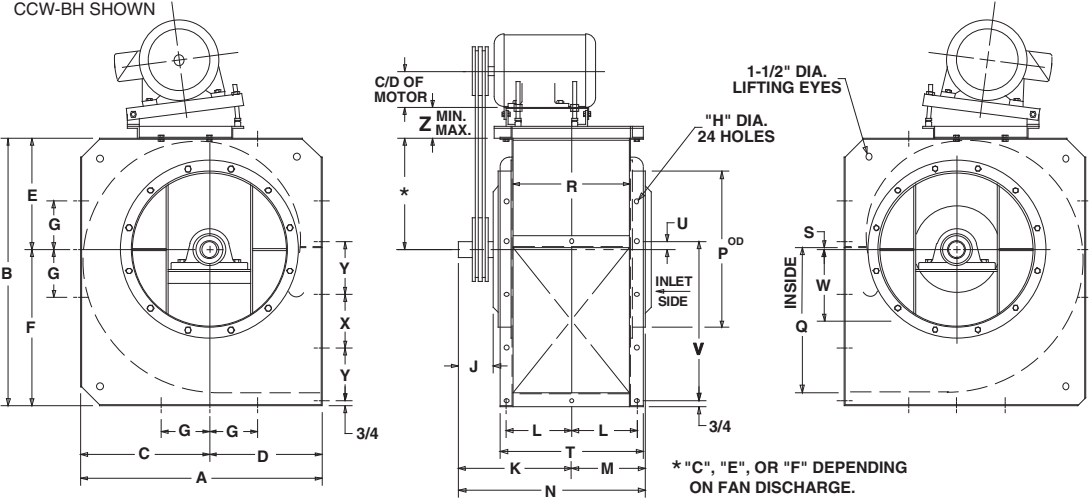
FAN SIZE	CLASS 1 & 2		CLASS 3			
	SHAFT DIA	KEYWAY	NOTE: SIZES 222 THRU 300 HAVE A TURNED DOWN SHAFT THRU BEARINGS		SHAFT DIA. THRU BRGS.	KEYWAY
222	1 $\frac{11}{16}$	3 $\frac{3}{8}$ x $\frac{3}{16}$	1 $\frac{15}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$	1 $\frac{11}{16}$	3 $\frac{3}{8}$ x $\frac{3}{16}$
245	1 $\frac{11}{16}$	3 $\frac{3}{8}$ x $\frac{3}{16}$	1 $\frac{15}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$	1 $\frac{11}{16}$	3 $\frac{3}{8}$ x $\frac{3}{16}$
270	1 $\frac{11}{16}$	3 $\frac{3}{8}$ x $\frac{3}{16}$	1 $\frac{15}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$	1 $\frac{11}{16}$	3 $\frac{3}{8}$ x $\frac{3}{16}$
300	1 $\frac{15}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$	2 $\frac{3}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$	1 $\frac{15}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$
330	1 $\frac{15}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$	2 $\frac{3}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$	2 $\frac{3}{16}$	1 $\frac{1}{2}$ x $\frac{1}{4}$

**QBCA/QBCS-365-445  
ARRANGEMENT 3 SWSI**



FAN SIZE	CLASS 1 & 2																			CLASS 3		APPROX. WEIGHT NO MOTOR (LBS.)							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	SHAFT DIA	KEYWAY	SHAFT DIA	KEYWAY	CLASS 1 & 2	CLASS 3
365	58 <sup>5</sup> / <sub>16</sub>	65 <sup>1</sup> / <sub>2</sub>	31 <sup>7</sup> / <sub>16</sub>	27	27 <sup>1</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	8	1 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>16</sub>	24 <sup>3</sup> / <sub>16</sub>	37 <sup>1</sup> / <sub>2</sub>	36 <sup>1</sup> / <sub>2</sub>	29	1	1 <sup>3</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	1/2 x 1/4	2 <sup>1</sup> / <sub>16</sub>	5/8 x 3/16	1078	1156
402	65 <sup>5</sup> / <sub>16</sub>	72	35 <sup>5</sup> / <sub>16</sub>	30	30 <sup>1</sup> / <sub>4</sub>	41 <sup>1</sup> / <sub>4</sub>	16	1 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>32</sub>	26 <sup>3</sup> / <sub>16</sub>	41 <sup>1</sup> / <sub>2</sub>	40 <sup>3</sup> / <sub>16</sub>	31 <sup>1</sup> / <sub>16</sub>	1	1 <sup>5</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	42 <sup>3</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>32</sub>	7 <sup>3</sup> / <sub>32</sub>	7 <sup>3</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>16</sub>	1/2 x 1/4	2 <sup>1</sup> / <sub>16</sub>	5/8 x 3/16	1308	1464
445	71 <sup>1</sup> / <sub>16</sub>	79 <sup>1</sup> / <sub>16</sub>	38 <sup>1</sup> / <sub>16</sub>	33	33 <sup>1</sup> / <sub>16</sub>	46	16	1 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>32</sub>	19 <sup>3</sup> / <sub>32</sub>	27 <sup>1</sup> / <sub>16</sub>	45 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	1	3 <sup>1</sup> / <sub>32</sub>	39 <sup>3</sup> / <sub>16</sub>	1 <sup>2</sup> / <sub>32</sub>	46 <sup>1</sup> / <sub>16</sub>	21 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>32</sub>	7 <sup>2</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>16</sub>	5/8 x 3/16	2 <sup>1</sup> / <sub>16</sub>	5/8 x 3/16	1562	1748

**QBCS/QBCA-122-200  
ARRANGEMENT 3T SWSI**



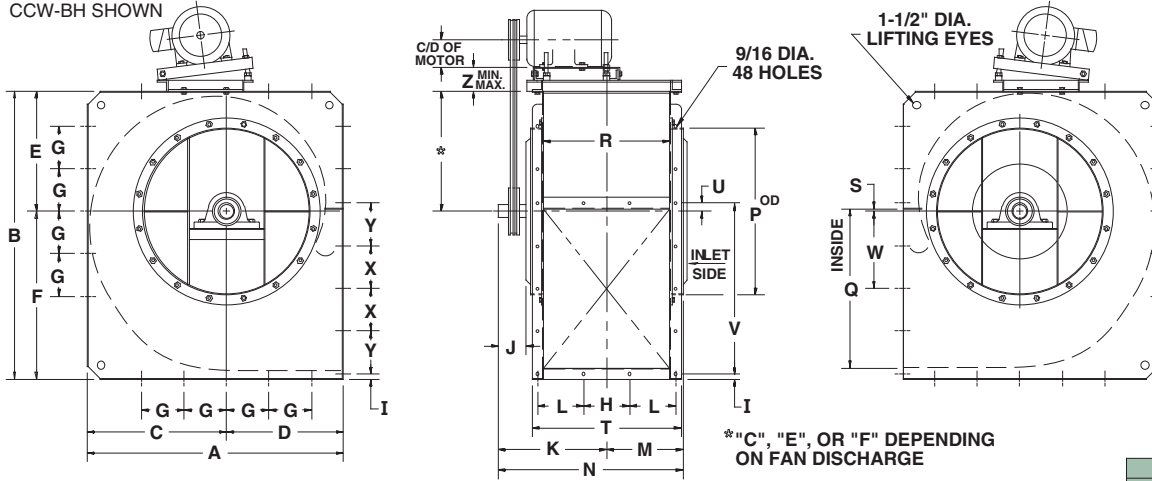
APPROXIMATE MOTOR WEIGHT	
FRAME SIZES	WEIGHT LBS.
48	25
56	34
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440

FAN SIZE	CLASS 1 & 2																			CLASS 3		MOTOR BASE					
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	Z	STD. FRAME SIZES RANGE	H.D. FRAME SIZES RANGE
122	20 <sup>7</sup> / <sub>16</sub>	23	10 <sup>7</sup> / <sub>16</sub>	10	9 <sup>3</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>2</sub>	11	5 <sup>3</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>16</sub>	17 <sup>3</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>16</sub>	1/8	13	1 <sup>5</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>32</sub>	4 <sup>9</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	48-213T	182T-256T
135	22 <sup>1</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	11	10 <sup>3</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>32</sub>	6 <sup>1</sup> / <sub>32</sub>	7 <sup>1</sup> / <sub>32</sub>	18 <sup>1</sup> / <sub>2</sub>	14 <sup>3</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>16</sub>	10 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>32</sub>	13 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>32</sub>	15 <sup>1</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	5	3 <sup>3</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	48-213T	182T-256T
150	25 <sup>1</sup> / <sub>4</sub>	27 <sup>1</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>4</sub>	12	11 <sup>1</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>2</sub>	12 <sup>3</sup> / <sub>32</sub>	6 <sup>2</sup> / <sub>32</sub>	7 <sup>2</sup> / <sub>32</sub>	19 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>2</sub>	15	11 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>32</sub>	15 <sup>3</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>32</sub>	16 <sup>3</sup> / <sub>16</sub>	7 <sup>9</sup> / <sub>32</sub>	5 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	48-213T	182T-256T
165	27 <sup>3</sup> / <sub>16</sub>	30 <sup>3</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>16</sub>	13	12 <sup>3</sup> / <sub>16</sub>	17 <sup>3</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>16</sub>	4	13 <sup>3</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>4</sub>	21 <sup>1</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>2</sub>	16 <sup>3</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>32</sub>	16 <sup>3</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>32</sub>	18 <sup>1</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>32</sub>	6 <sup>3</sup> / <sub>16</sub>	6	3 <sup>3</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	56-215T	143T-286T
182	30 <sup>1</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>16</sub>	14	13 <sup>3</sup> / <sub>16</sub>	19 <sup>3</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>16</sub>	4	13 <sup>1</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>16</sub>	9	22 <sup>1</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	18 <sup>1</sup> / <sub>16</sub>	14 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>32</sub>	17 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>32</sub>	19 <sup>1</sup> / <sub>16</sub>	8 <sup>2</sup> / <sub>32</sub>	6 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	56-215T	143T-286T
200	32 <sup>3</sup> / <sub>16</sub>	36 <sup>3</sup> / <sub>16</sub>	17 <sup>3</sup> / <sub>16</sub>	15	15 <sup>1</sup> / <sub>16</sub>	21 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>16</sub>	4	14 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	24 <sup>1</sup> / <sub>4</sub>	21 <sup>1</sup> / <sub>2</sub>	19 <sup>3</sup> / <sub>16</sub>	15 <sup>3</sup> / <sub>16</sub>	1/4	19 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	21 <sup>1</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	56-215T	143T-286T

APPROXIMATE FAN WEIGHT LESS MOTOR	CLASS 1 & 2				CLASS 3					
	FAN SIZE	SHAFT DIA	KEYWAY	WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE	SHAFT DIA. BETWEEN BRGS.	KEYWAY	SHAFT DIA. THRU BRGS.	KEYWAY	WITH STD. MOTOR BASE
122	1 <sup>1</sup> / <sub>16</sub>	1/4 x 1/8	105	110	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	119	124
135	1 <sup>1</sup> / <sub>16</sub>	1/4 x 1/8	119	124	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	133	138
150	1 <sup>1</sup> / <sub>16</sub>	1/4 x 1/8	141	146	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	159	164
165	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	204	218	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	228	242
182	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	236	250	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	262	276
200	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	272	286	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	1 <sup>1</sup> / <sub>16</sub>	3/8 x 3/16	300	314

## QBCA/QBCS-222-330 ARRANGEMENT 3T SWSI

CCW-BH SHOWN

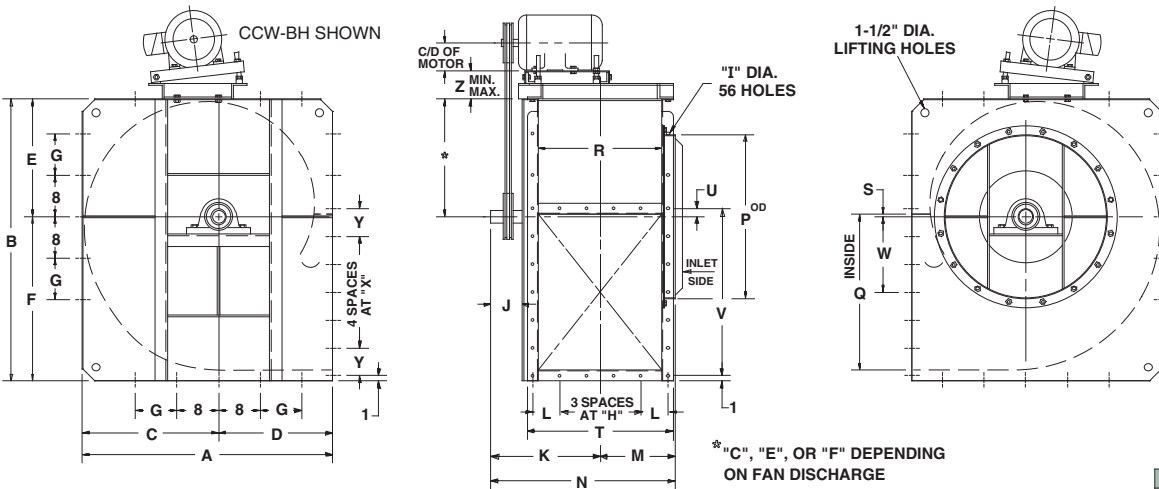


APPROXIMATE MOTOR WEIGHT	
FRAME SIZES	WEIGHT LBS.
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440
324T	555
326T	620

FAN SIZE	MOTOR BASE																				MIN	MAX	STD. FRAME SIZES RANGE	H.D. FRAME SIZES RANGE				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U					V	W	X	Y
222	35½	40¾	19½	16	16¼	23½	6½	6¾	¾	5	16½	6½	10¾	27¼	23½	22½	17¼	¾	20¾	1¾	23¾	10¾	6	5¼	4¼	6¼	182T-256T	143T-286T
245	39½	44¾	21½	18	18½	26¼	6½	7¾	1	5	17¾	7¼	11¾	29¾	26½	24¾	19¾	½	23¾	1¾	26¼	11¾	6¾	6¾	4¼	6¼	182T-256T	143T-326T
270	43½	49¾	23¾	19½	20¾	28¼	6½	7¾	1	6	19¾	7¾	12¾	32¾	28½	26¾	21¾	¾	25¼	1¾	29¾	13¾	7¼	7¼	4¼	6¼	182T-256T	143T-326T
300	48¼	54¾	26¼	22	22¾	31¾	8	8¾	1	6	21¾	8¾	14¾	35¾	31½	29¾	23¾	¾	28¾	1¾	32¾	14¾	7¾	8¾	4¼	6¼	143T-286T	143T-326T
330	52¾	59¾	28¾	24	24¾	34¾	8	9¾	1	6½	22¾	9½	15¾	38¾	34½	33	26¾	¾	30¾	1¾	35¼	15¾	8¾	8¾	4¼	6¼	143T-286T	143T-326T

APPROXIMATE FAN WEIGHTS LESS MOTOR	CLASS 1 & 2					CLASS 3					
	FAN SIZE	SHAFT DIA.	KEYWAY	WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE	SHAFT DIA. BETWEEN BRGS.	KEYWAY	SHAFT DIA. THRU BRGS.	KEYWAY	WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE
	222	1¼	¾ x ¾	373	383	1¾	½ x ¼	1¼	¾ x ¾	409	419
245	1¼	¾ x ¾	453	469	1¾	½ x ¼	1¼	¾ x ¾	497	513	
270	1¼	¾ x ¾	497	513	1¾	½ x ¼	1¼	¾ x ¾	571	587	
300	1¾	½ x ¼	685	691	2¾	½ x ¼	1¾	½ x ¼	757	763	
330	1¾	½ x ¼	803	810	2¾	½ x ¼	2¾	½ x ¼	947	954	

## QBCA/QBCS-365-445 ARRANGEMENT 3T SWSI



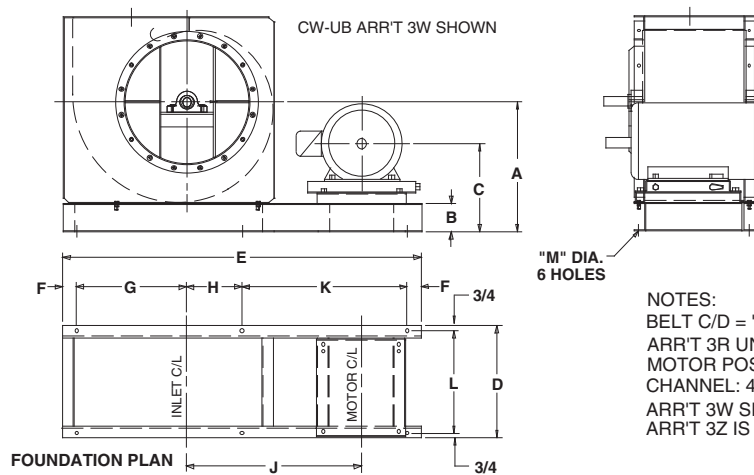
APPROXIMATE MOTOR WEIGHT	
FRAME SIZES	WEIGHT LBS.
143T	45
145T	52
182T	85
184T	100
213T	150
215T	170
254T	260
256T	290
284T	390
286T	440
324T	555
326T	620

FAN SIZE	MOTOR BASE																				MIN	MAX	STD. FRAME SIZES RANGE	H.D. FRAME SIZES RANGE				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U					V	W	X	Y
365	58¾	65½	31¾	27	27¾	38¾	8	6¼	1¼	6½	24¾	6¼	16¾	41	37½	36½	29	¾	33¼	1¼	38¾	17¼	6½	6¾	5¼	7	143T-286T	143T-326T
402	65¾	72	35¾	30	30¼	41¼	16	6¾	1¼	7	26¾	6¾	18¾	44¾	41½	40¾	31¾	¾	36¾	1¾	42¾	19¾	7¾	7¾	5¼	7	143T-286T	143T-326T
445	71¾	79¾	38¾	33	33¾	46	16	7½	1¼	7	27¾	7¾	19¾	47¾	45½	44¾	35¾	¾	39¾	1¾	46¾	21¾	7¾	7¾	5¼	7	143T-286T	143T-326T

APPROXIMATE FAN WEIGHT LESS MOTOR								
FAN SIZE	SHAFT DIA.	KEYWAY	CLASS 1 & 2		CLASS 3			
			WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE	WITH STD. MOTOR BASE	WITH H.D. MOTOR BASE		
365	2¾	½ x ¼	1254	1261	2¾	¾ x ¾	1476	1483
402	2¾	½ x ¼	1533	1539	2¾	¾ x ¾	1771	1777
445	2¾	¾ x ¾	1769	1776	2¾	¾ x ¾	1977	1984



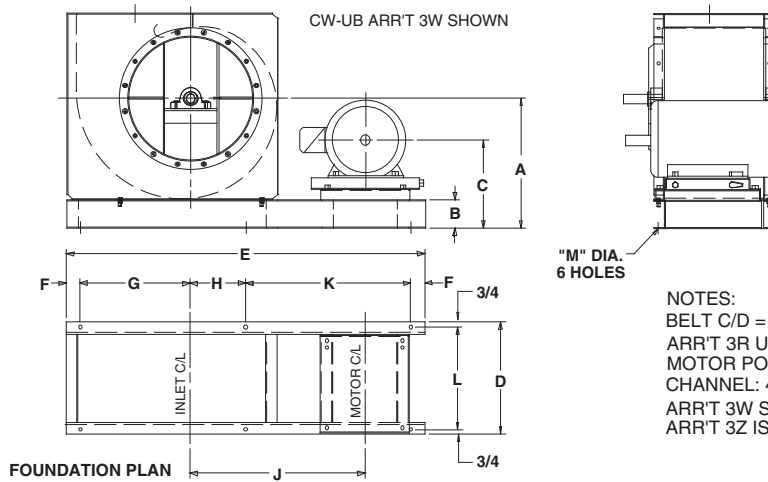
## QBCS-122-150 ARRANGEMENT 3 SWSI UNITARY



NOTES:  
BELT C/D = "N" DIM.  
ARR'T 3R UNITARY BASE  
MOTOR POSITION "W"  
CHANNEL: 4 X 2 X .1793  
ARR'T 3W SHOWN,  
ARR'T 3Z IS MIRROR IMAGE.

FAN SIZE	FRAME SIZE	CW-UB CCW-UB	CCW-TH	CW-BH	CW-UB									CCW-UB			CW-BH/CCW-TH				CW-UB	CCW-UB	CCW-TH	CW-BH	APPROX. WT. #	
					A	A	A	B	C	D	E	F	G	H	J	G	H	J	G	H					J	K
122	143T	14%	13%	17%	10 1/4	38	3	10%	5 3/8	18 3/8	6%	9%	22 3/8	7	9	21 1/2	16	11 1/2	3/8	18.7	22.8	22.0	23.0	162	220	
	145T				11%	40			6%	19		10%	23 1/8		10	22%	17			19.3	23.5	22.7	23.4	260	272	
	182T				12%	44			8%	21 1/8		12%	26 1/8		12	25 1/2	19			22.0	26.2	25.5	26.0	272	286	
	213T				14%	47			9%	23 1/2		14%	27 3/4		13 1/2	27%	20 1/2			22.0	26.2	25.5	26.0	333	347	
	215T				14%	47			9%	23 1/2		14%	27 3/4		13 1/2	27%	20 1/2			23.5	27.8	27.1	27.3	353	367	
	254T				14%	47			9%	23 1/2		14%	27 3/4		13 1/2	27%	20 1/2			460	474					
256T	14%	47	9%	23 1/2	14%	27 3/4	13 1/2	27%	20 1/2	490	504															
135	143T	15 1/8%	14 1/8%	18%	10 1/4	40	3	11%	5 3/8	18 3/8	7 1/8%	9 1/16	22 7/16	8	9	22 3/4	17	12 7/16	3/8	19.7	23.1	23.1	24.3	222	236	
	145T				11%	42			6%	19 3/8		10 1/16	24 3/16		10	23%	18			20.2	24.7	23.8	24.7	232	246	
	182T				12%	46			8%	22%		12 1/16	27 3/16		12	26 1/2	20			22.9	27.4	26.6	27.2	273	287	
	213T				14%	49			9%	24 1/4		14%	28 3/8		13 1/2	28%	21 1/2			22.9	27.4	26.6	27.2	288	302	
	215T				14%	49			9%	24 1/4		14%	28 3/8		13 1/2	28%	21 1/2			349	363					
	254T				14%	49			9%	24 1/4		14%	28 3/8		13 1/2	28%	21 1/2			369	383					
256T	14%	49	9%	24 1/4	14%	28 3/8	13 1/2	28%	21 1/2	476	490															
150	143T	17%	15 1/8%	20%	10 1/4	43	3	13%	5 3/8	20 3/8	8%	10%	25 1/8	9	9 1/2	24%	18 1/2	13 1/8	3/8	21.5	26.3	25.3	26.7	248	266	
	145T				11%	45			6%	21 1/4		11%	26 3/8		10 1/2	25%	19 1/2			22.0	26.8	25.9	27.1	258	276	
	182T				12%	49			8%	24 1/4		13%	29 1/8		12 1/2	28 1/2	21 1/2			24.6	29.4	28.6	29.5	299	317	
	213T				14%	52			9%	25 3/4		14%	30 1/8		14	30%	23			314	332					
	215T				14%	52			9%	25 3/4		14%	30 1/8		14	30%	23			375	393					
	254T				14%	52			9%	25 3/4		14%	30 1/8		14	30%	23			395	413					
284T	15%	55	11%	27 1/4	16%	32 3/8	15 1/2	31%	24 1/2	502	520															
286T	15%	55	11%	27 1/4	16%	32 3/8	15 1/2	31%	24 1/2	532	550															
286T	15%	55	11%	27 1/4	16%	32 3/8	15 1/2	31%	24 1/2	645	663															
286T	15%	55	11%	27 1/4	16%	32 3/8	15 1/2	31%	24 1/2	695	713															

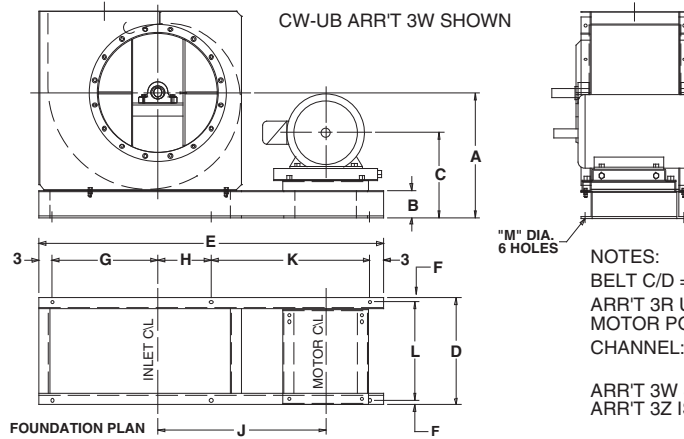
## QBCA/QBCS-165-200 ARRANGEMENT 3 SWSI UNITARY



NOTES:  
BELT C/D = "N" DIM.  
ARR'T 3R UNITARY BASE  
MOTOR POSITION "W"  
CHANNEL: 4 X 2 X .1793  
ARR'T 3W SHOWN,  
ARR'T 3Z IS MIRROR IMAGE.

FAN SIZE	FRAME SIZE	CW-UB CCW-UB	CCW-TH	CW-BH	CW-UB									CCW-UB			CW-BH/CCW-TH				CW-UB	CCW-UB	CCW-TH	CW-BH	APPROX. WT. #	
					A	A	A	B	C	D	E	F	G	H	J	G	H	J	G	H					J	K
165	182T	18%	16%	21 1/8%	11%	48	3	14 1/8%	6%	22 1/8	9%	11%	28 1/8	10	11	27%	21	14%	1/8	23.8	28.9	28.1	29.4	365	393	
	184T				12%	52			8%	25 1/8		13%	30 1/8		13	30 1/2	23			26.4	31.5	30.8	31.9	443	471	
	213T				14%	55			9%	27 1/8		14%	32 1/8		14 1/2	32%	24 1/2			27.0	32.8	32.2	33.0	463	491	
	254T				15%	58			11%	28 1/8		16%	34 1/8		16	33%	26			29.0	34.2	33.7	34.3	568	596	
	256T				15%	58			11%	28 1/8		16%	34 1/8		16	33%	26			598	626					
	284T				15%	58			11%	28 1/8		16%	34 1/8		16	33%	26			711	739					
182	182T	20 1/8%	17 1/8%	23 1/8%	11%	51	3	16 1/8%	5 1/8	24 1/8	10 1/8%	11 1/2	29%	22 1/2	11	13 1/2	32 1/2	24 1/2	16 1/4	1/8	25.5	31.0	30.3	31.9	403	433
	184T				12%	55			7%	26%		13 1/2	32 1/2	24 1/2		27.9	33.5	32.9			34.3	418	448			
	213T				14%	58			9%	28%		15%	34%	15		34%	26	29.1			34.8	34.3	35.3	503	533	
	254T				15%	61			10%	30%		16 1/8	35%	16 1/2		35%	27 1/2	30.5			36.1	35.7	36.6	610	640	
	256T				15%	61			10%	30%		16 1/8	35%	16 1/2		35%	27 1/2	640			670					
	284T				15%	61			10%	30%		16 1/8	35%	16 1/2		35%	27 1/2	753			783					
200	182T	21 1/8%	19%	25 1/4%	11%	54	3	18%	5%	25%	12%	12	31%	24	12	15 1/2	36%	27 1/2	17%	1/8	27.3	33.0	32.5	34.4	803	833
	184T				12%	58			7%	28%		13%	34%	14		34%	26	29.6			35.5	35.1	36.7	847	875	
	213T				14%	61			9%	29%		15%	36	15 1/2		36%	27 1/2	30.7			36.7	36.4	37.7	980	1008	
	254T				15%	64			10%	31%		16%	37 1/2	17		37%	29	32.0			38.0	37.8	38.9	1045	1073	
	256T				15%	64			10%	31%		16%	37 1/2	17		37%	29	1045			1073					
	324T				16%	68			12%	33%		18%	40	19		40%	31	34.2			40.3	40.2	41.0	1045	1073	

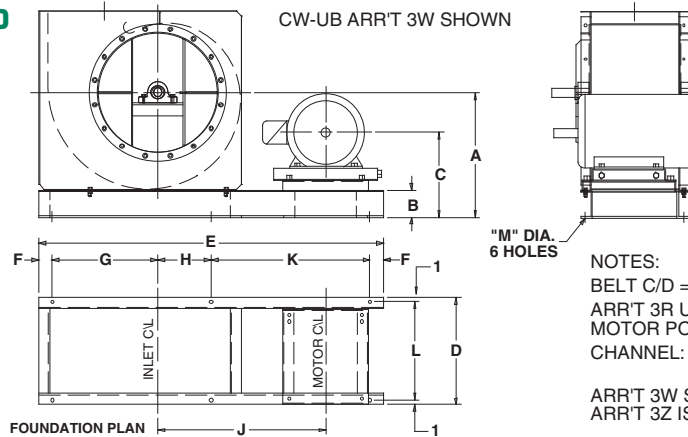
**QBCA/QBCS-222-270  
ARRANGEMENT 3  
SWSI UNITARY**



NOTES:  
BELT C/D = "N" DIM.  
ARR'T 3R UNITARY BASE  
MOTOR POSITION "W"  
CHANNEL: 6 X 2.497 X .310  
6"-12#  
ARR'T 3W SHOWN,  
ARR'T 3Z IS MIRROR IMAGE.

FAN SIZE	FRAME SIZE	CW-UB			B	C	D	E	F	CW-UB			CCW-UB		CW-TH		CW-BH/CCW-TH				M	N	N	N	N	N	APPROX. WT. #		
		CCW-UB	CW-TH	CW-BH						G	H	J	G	H	J	G	H	J	K	L							CLASS 1 & 2	CLASS 3	
222	182T	25½	22¾	29½	6	13%	20%	58	¾	20½	13%	15%	33%	16½	N/A	N/A	13	34%	26	19¾	¾	29.6	35.5	32.5	35.8	38.1	640	676	
	184T																										655	691	
	213T																										722	758	
	215T																										742	778	
	254T																										854	890	
	256T																										884	920	
	284T																										999	1035	
	286T																										1049	1085	
	324T																										1187	1223	
	326T																										1252	1288	
245	182T	27½	24½	32¼	6	13%	23%	62	1	23¼	15½	12%	36%	18½	N/A	N/A	12	33%	28	21½	¾	31.6	38.7	34.9	38.2	41.1	739	783	
	184T																										754	798	
	213T																										822	866	
	215T																										842	886	
	254T																										953	997	
	256T																										983	1027	
	284T																										1098	1142	
	286T																										1148	1192	
	324T																										1286	1330	
	326T																										1351	1395	
270	182T	29%	26%	34½	6	14%	25%	71	1	25½	17%	6%	33%	20%	14%	N/A	N/A	16	43	32½	23%	¾	37.0	44.7	40.6	44.6	47.5	882	956
	184T																											902	976
	213T																											1015	1089
	215T																											1045	1119
	254T																											1160	1253
	256T																											1210	1284
	284T																											1348	1422
	286T																											1413	1487
	324T																											1577	1651
	326T																											1637	1711

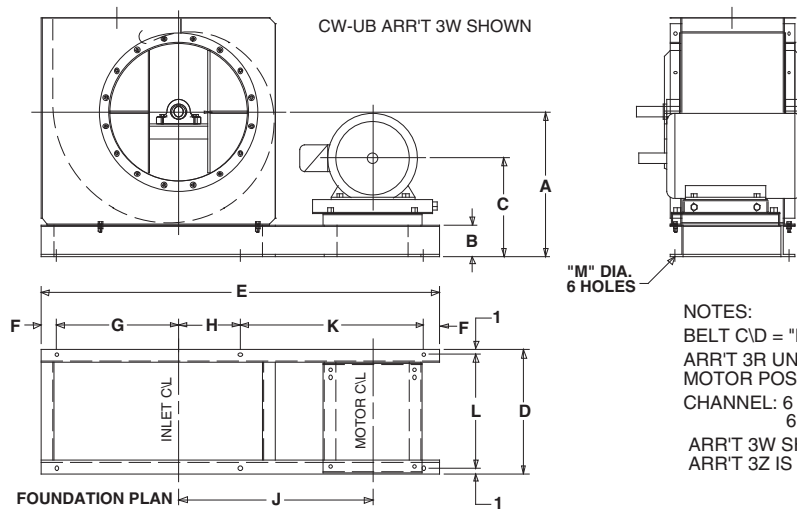
**QBCA / QBCS-300 AND 330  
ARRANGEMENT 3  
SWSI UNITARY**



NOTES:  
BELT C/D = "N" DIM.  
ARR'T 3R UNITARY BASE  
MOTOR POSITION "W"  
CHANNEL: 6 X 2.497 X .310  
6"-12#  
ARR'T 3W SHOWN,  
ARR'T 3Z IS MIRROR IMAGE.

FAN SIZE	FRAME SIZE	CW-UB			B	C	D	E	F	CW-UB			CCW-UB		CW-TH		CW-BH/CCW-TH				M	N	N	N	N	N	APPROX. WT. #	
		CCW-UB	CW-TH	CW-BH						G	H	J	G	H	J	G	H	J	K	L							CLASS 1 & 2	CLASS 3
300	213T	32¼	28%	37%	6	14%	28%	76	3	28%	19%	7%	37½	18%	48	23¼	14%	44%	36½	26%	¾	40.0	48.2	43.6	47.6	50.2	1080	1152
	215T																										1100	1172
	254T																										1213	1285
	256T																										1243	1315
	284T																										1357	1429
	286T																										1407	1479
	324T																										1546	1618
	326T																										1611	1683
	364T																										1775	1847
	365T																										1835	1907
330	254T	34¾	30%	40%	6	16%	30%	84	3	31%	21%	7%	39%	20%	53%	25%	16%	49%	42½	28%	¾	43.6	52.6	47.5	52.1	55.6	1350	1494
	256T																										1380	1524
	284T																										1495	1639
	286T																										1545	1689
	324T																										1683	1827
	326T																										1748	1892
	364T																										1912	2056
	365T																										1972	2116
	404T																										2272	2416
	405T																										2372	2516

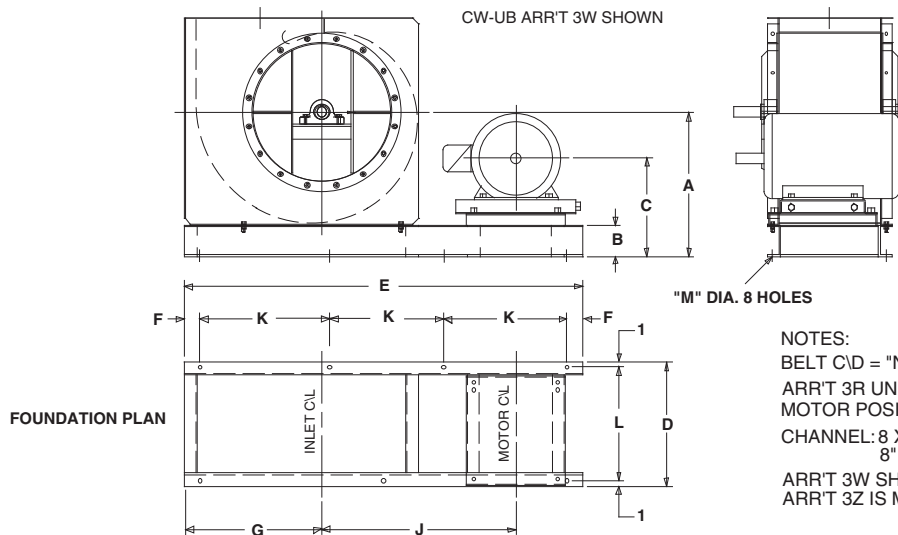
**QBCA / QBCS-365 AND 402  
ARRANGEMENT 3 SWSI  
UNITARY**



NOTES:  
BELT C/D = "N" DIM.  
ARR'T 3R UNITARY BASE  
MOTOR POSITION "W"  
CHANNEL: 6 X 2.497 X .310  
6" - 12"  
ARR'T 3W SHOWN,  
ARR'T 3Z IS MIRROR IMAGE.

FAN SIZE	FRAME SIZE	CW-UB CCW-UB			CW-BH	B	C	D	E	F	CW-UB			CCW-UB			CW-TH			CW-BH-CCW-TH			M	N	N	N	N	N	APPROX. WT. # FAN, MTR. UNIT																	
		A	A	A							G	H	J	G	H	J	G	H	J	G	H	J							K	L	CLASS 1 & 2	CLASS 3														
365	254T	37 7/8	33 3/8	44 1/8	6	16 7/16	90	35 1/8	3	35 1/8	6 5/16	42 1/16	17 9/16	52 1/16	28 3/8	13 1/8	48 1/4	18	53 3/8	42	31 1/4	%	47.2	56.9	51.2	55.8	59.9	1673	1751																	
	256T																											1703	1781																	
	284T																											48.2	58.0	52.3	57.0	60.9	8 7/16	43 3/16	19 1/16	54 3/16	14 3/8	49 3/8	19 1/2	54%	43 1/2	2006	2084			
	286T																																											1842	1896	
	324T																											50.0	59.8	54.3	59.0	62.5	10 1/16	46 1/16	24 7/16	21 1/16	56 1/16	16 3/8	52 1/4	21 1/2	57%	45 1/2	2071	2149		
	326T																																												2235	2313
	364T																																												2295	2373
	365T																											51.0	61.1	55.6	60.3	63.6	11 1/16	47 1/16	22 9/16	22 9/16	58 3/8	18 3/8	53%	23	58%	47	2295	2373		
	404T																																												2595	2673
	405T																																												2695	2773
444T	2990	3068																																												
445T	56.2	66.6	N/A	66.2	68.6	16 3/8	54 5/8	27 9/16	64 1/8	27 9/16	N/A	N/A	28	65%	52	3165	3243																													
254T																		1927	2083																											
402	256T	41 1/8	36 1/4	47 3/4	6	17 3/8	99	38 3/8	3	38 3/8	6 1/4	44 3/8	17 3/4	55 3/8	32 3/8	12 3/8	51	18	56 1/8	45	34 3/8	%	50.8	61.1	54.7	59.5	64.3	1957	2113																	
	284T																											2072	2228																	
	286T																											2122	2278																	
	324T																											53.3	63.9	57.7	62.6	66.8	9 3/8	48 3/8	27 1/4	21 1/4	59 3/8	16 3/8	55	21 1/2	60%	48 1/2	2260	2416		
	326T																																												2325	2481
	364T																											54.4	65.1	59.0	63.9	67.8	11 1/4	50	22 3/4	22 3/4	61 1/2	17 3/8	56%	23	61%	50	2489	2645		
	365T																																												2549	2705
	404T																																												2849	3005
	405T																											56.1	67.1	61.1	66.1	69.5	13 3/8	52%	25 1/4	64 3/8	25 1/4	20%	59 1/2	25 1/2	64%	52 1/2	2949	3105		
	404T																																												3244	3400
405T	3419	3575																																												

**QBCA/QBCS-445  
ARRANGEMENT 3 SWSI  
UNITARY**



NOTES:  
BELT C/D = "N" DIM.  
ARR'T 3R UNITARY BASE  
MOTOR POSITION "W"  
CHANNEL: 8 X 2.978 X .353  
8" - 18.7"  
ARR'T 3W SHOWN,  
ARR'T 3Z IS MIRROR IMAGE.

FAN SIZE	FRAME SIZE	CW-UB CCW-UB			CW-BH	B	C	D	E	F	CW-UB			CCW-UB			CW-TH			CW-BH-CCW-TH			M	N	N	N	N	N	APPROX. WT. # FAN, MTR. UNIT																
		A	A	A							G	J	G	J	G	J	G	J	K	L	CLASS 1 & 2	CLASS 3																							
445	324T	46 1/8	41 7/8	54	8	20 1/16	112	39 3/8	121	5	46	53%	33 3/16	71 3/16	38 3/8	65%	33	66%	34	37 3/8	%	59.2	70.7	63.8	69.3	74.0	2742	2928																	
	326T																										2807	2993																	
	364T																										60.2	71.8	65.0	70.6	75.0	21 3/8	115	54 3/8	67 3/8	61 1/8	67 3/8	35	3035	3221	3343	3529			
	365T																																										3035	3221	
	404T																										62.8	74.7	68.0	73.7	77.6	24 1/4	121	25 1/4	60%	72 5/8	67%	71%	37	37 3/8	77%	3443	3629		
	405T																																											3443	3629
	444T																																											3738	3924
	445T																										64.1	76.1	69.5	75.1	78.8	25 1/4	124	25 1/4	60%	72 5/8	67%	73%	38	38	78.8	3913	4099		
447T	4476	4662																																											

