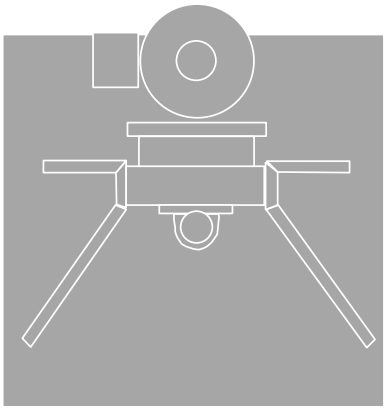
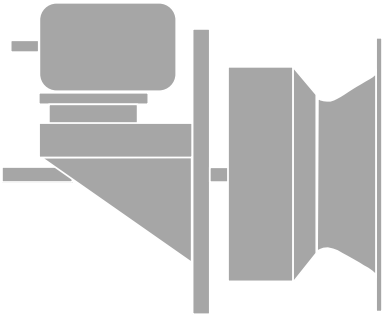

CCP
COOK

CCP

Centrifugal Plug Fan



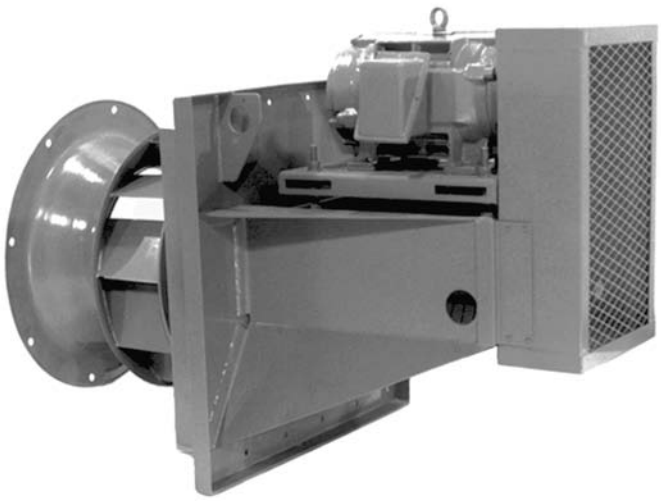


Introduction

Loren Cook Company's Centrifugal Plug Fan is an unhoused fan designed for commercial and industrial applications. The fan is designed to become an integral part of HVAC installations, ovens, spray booths, dryers, kilns and many other applications.

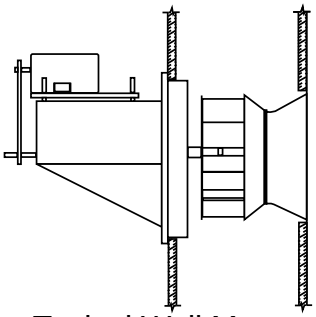
The CCP is available in steel and aluminum construction with wheel sizes of 12" to 44-1/2" diameter, class I and II, and static pressure to 8". Consult with the factory for other construction materials and special designs. Custom O.E.M. design service is also available.

Standard CCP construction will operate with airstream temperatures up to 180°F. With high temperature accessories, maximum temperature is 800°F. All sizes of the CCP are available with either a true airfoil (Model CCP-A) or flat blade (Model CCP-F) backward inclined wheel.

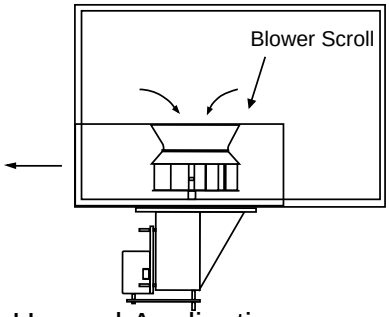


- The framework to the CCP is constructed of heavy structural (ASTM-A36) steel angle, continuously welded at all connections, and with Lorenized™ powder coated finish.
- The inlet cone is constructed of heavy gauge spun aluminum, with Lorenized™ powder coated finish, carefully matched to the wheel shroud to provide smooth airflow and quiet efficient operation.
- The shaft is constructed of a minimum AISI-C-1045 steel turned, ground and polished to precise tolerances. All shafts are sized for a critical speed of at least 125 percent of maximum class speed.
- The bearings are grease lubricated precision, self-aligning, anti-friction, ball or spherical roller pillow-block type selected for a minimum of 200,000 hours average life.
- The CCP is available with true airfoil wheel or a single thickness flatblade, backward inclined wheel. All blades are continuously welded to the wheel shroud and backplate.
- All wheels are dynamically balanced prior to shipment to assure vibration-free operation. In addition, all units are given a final balance check as a complete assembly while operating at the designed RPM. Fans are balanced to a vibration velocity limit of 0.0785 inches/seconds.

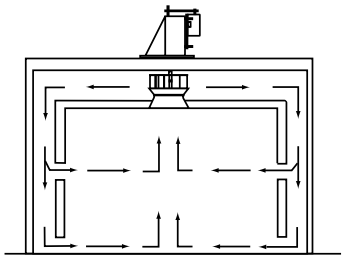
Typical Installations



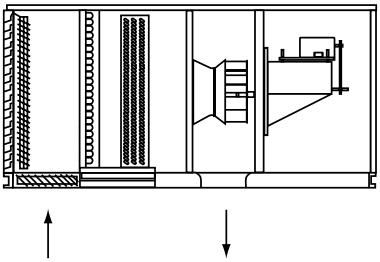
Typical Wall Mount



Housed Application



Plenum System



Custom Air Handler

Plug fans offer a wide range of commercial and industrial applications which include HVAC installations, ovens, spray booths, dryers and kilns. The plug fan is designed to pressurize the plenum in which the wheel is located so ductwork can be connected directly to the plenum. This design saves space by eliminating the fan housing and ductwork transition to the fan discharge. The plug fan design also allows for the fan bearings and motor to be thermally isolated from the airstream with the addition of an insulated plug, making it ideal for operation at high airstream temperatures.

Units can be installed with the shaft in either a vertical or horizontal orientation as required. Since a close tolerance must be maintained between the inlet cone and wheel, the fan and inlet cone for unhoused units should be directly attached to rigid plenum walls or support structure. If vibration isolation is required, the entire plenum must be isolated. Because of the wide variety of installation methods for fans of this type, field vibration balancing is required after installation in order to validate factory warranty.

Centrifugal Plug Fan

Description - Fan shall be a single width, single inlet backward inclined centrifugal airfoil, belt driven plug fan.

Certifications - Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL/cUL 705) for US and Canada. Fan shall bear the AMCA Certified Ratings Seal for Sound and Air Performance.

Construction - The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The mounting panel shall be constructed from minimum 10 gauge steel with formed flanges and welded corners to insure flatness and rigidity. Prepunched mounting holes shall be provided for vertical or horizontal mounting. Spun aluminum inlet cone shall be provided for field installation. Bearings shall be supported on a welded assembly constructed of minimum 10 gauge steel with members designed to directly oppose belt tension. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM, static pressure, and maximum fan RPM. Unit shall be shipped in ISTA Certified Transit Tested Packaging.

Coating - Steel fan components shall be Lorenized® with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Wheel - Wheel shall be steel, non-overloading, centrifugal backward inclined, airfoil type. Blades on all sizes shall be continuously welded to the backplate and deep spun inlet shroud. All sizes shall be securely keyed to the fan shaft. Wheel shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans.

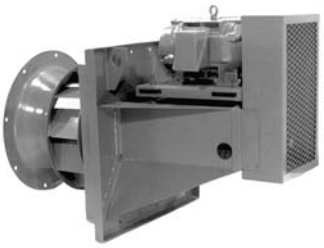
Motor - Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Blower Shaft - Blower shaft shall be AISI C-1045 hot rolled and accurately turned, ground and polished. Shafting shall be sized for a critical speed of at least 125% of maximum RPM.

Bearings - Bearings shall be designed and tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball or roller type in a cast iron pillowblock housing selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

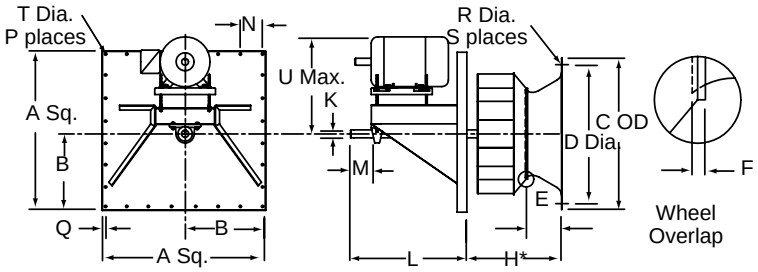
Belts and Drives - Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150% of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

Product - Fan shall be model CCP-A as manufactured by Loren Cook Company of Springfield, Missouri.



Loren Cook Company certifies that the CCP-A 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.

Type CCP-A is furnished standard with UL 705 listing (cUL 705) when furnished with factory supplied motor.

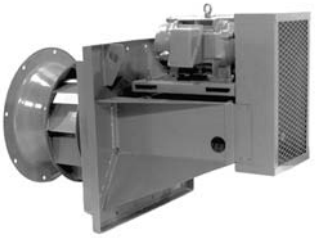


CCP-A Dimension Data

Size	A Sq.	B	C OD	D Dia.	E	F	H*	J Sq.	K Dia. Std. Const.		K Dia. Insultd Plug		L	M	N	P	Q	R	S	T Dia.	U Max.	Max. Mtr. Frame	Ship. Wt.	
									Class I	Class II	Class I	Class II											Class I	Class II
120	24	12	16	14-1/2	3-9/16	5/8	10-1/16	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	121	126
135	24	12	17-1/2	16	4-1/16	5/8	11-3/16	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	124	130
150	24	12	19	17-1/2	4-1/2	5/8	12-1/4	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	129	138
165	24	12	21	19	4-15/16	5/8	13-15/16	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	137	148
180	26-1/2	13-1/4	22-1/2	20-1/2	5-3/8	5/8	14-3/8	20-1/2	1-3/16	1-7/16	1-11/16	2-3/16	26-1/2	4-1/4	5-7/8	16	1-1/2	5/8	8	7/16	23-7/16	254T	162	180
195	26-1/2	13-1/4	24	22	5-7/8	5/8	15-7/16	20-1/2	1-3/16	1-7/16	1-11/16	2-3/16	26-1/2	4-1/4	5-7/8	16	1-1/2	5/8	8	7/16	23-7/16	254T	181	201
210	26-1/2	14-3/4	25-3/4	23-3/4	6-5/16	3/4	16-1/2	23-1/2	1-7/16	1-11/16	1-11/16	2-3/16	28-1/2	4-1/4	6-5/8	16	1-1/2	5/8	8	7/16	23-15/16	256T	227	248
225	26-1/2	14-3/4	27-1/4	25-1/4	6-3/4	3/4	17-9/16	23-1/2	1-7/16	1-11/16	1-11/16	2-3/16	28-1/2	4-1/4	6-5/8	16	1-1/2	5/8	8	7/16	23-15/16	256T	236	259
245	34	17	29-1/4	27-1/4	7-5/16	3/4	19	28	1-11/16	1-15/16	1-11/16	2-3/16	29-15/16	5-1/4	6-3/16	20	1-1/2	5/8	8	7/16	25-15/16	284T	316	347
270	34	17	31-3/4	29-3/4	8-3/8	3/4	21-1/8	28	1-11/16	1-15/16	1-15/16	2-3/16	29-15/16	5-1/4	6-3/16	20	1-1/2	5/8	8	9/16	25-15/16	284T	332	366
300	40	20	34-3/4	32-3/4	9	1	22-7/8	36	1-15/16	2-3/16	1-15/16	2-7/16	33-1/2	5-7/8	7-13/32	20	1-1/2	5/8	8	9/16	28-5/8	324T	483	498
330	40	20	37-3/4	35-3/4	9-7/8	1	25	36	1-15/16	2-3/16	1-15/16	2-7/16	33-1/2	5-7/8	7-13/32	20	1-1/2	5/8	12	9/16	28-5/8	324T	507	534
365	47-1/4	23-5/8	41-1/4	39-1/4	10-15/16	1	27-3/8	41-1/4	2-3/16	2-7/16	2-3/16	2-7/16	35	5-7/8	7-3/8	24	1-1/2	5/8	12	9/16	28-7/8	326T	652	710
402	47-1/4	23-5/8	45	43	12-1/16	1	30-3/16	41-1/4	2-3/16	2-7/16	2-3/16	2-15/16	35	5-7/8	7-3/8	24	1-1/2	3/4	12	9/16	28-7/16	326T	714	757
445	51-1/2	25-3/4	49-1/4	47-1/4	13-3/8	1	33-1/4	45-1/2	2-7/16	2-15/16	2-7/16	2-15/16	36-1/4	6-3/8	6-15/16	28	1-1/2	3/4	12	9/16	31-7/8	364T	834	899

All dimensions in inches. Weights in lbs., less motor.
* Add 4" to "H" dimension if using optional insulated plug.

Centrifugal Plug Fan



Loren Cook Company certifies that the CCP-F 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.

Type CCP-F is furnished standard with UL 705 listing (cUL 705) when furnished with factory supplied motor.

Description - Fan shall be a single width, single inlet backward inclined centrifugal flat blade, belt driven plug fan.

Certifications - Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL/cUL 705) for US and Canada. Fan shall bear the AMCA Certified Ratings Seal for Sound and Air Performance.

Construction - The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The mounting panel shall be constructed from minimum 10 gauge steel with formed flanges and welded corners to insure flatness and rigidity. Prepunched mounting holes shall be provided for vertical or horizontal mounting. Spun aluminum inlet cone shall be provided for field installation. Bearings shall be supported on a welded assembly constructed of minimum 10 gauge steel with members designed to directly oppose belt tension. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM, static pressure, and maximum fan RPM. Unit shall be shipped in ISTA Certified Transit Tested Packaging.

Coating - Steel fan components shall be Lorenized™ with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Wheel - Wheel shall be steel, non-overloading, centrifugal backward inclined, flat blade type. Blades on all sizes shall be continuously welded to the backplate and deep spun inlet shroud. Hubs shall be keyed and securely attached to the fan shaft. Wheel shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans.

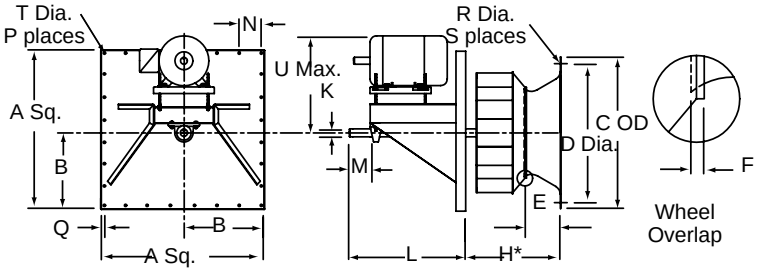
Motor - Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Blower Shaft - Blower shaft shall be AISI C-1045 hot rolled and accurately turned, ground and polished. Shafting shall be sized for a critical speed of at least 125% of maximum RPM.

Bearings - Bearings shall be designed and tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball or roller type in a cast iron pillowblock housing selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

Belts and Drives - Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150% of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

Product - Fan shall be model CCP-F as manufactured by Loren Cook Company of Springfield, Missouri.

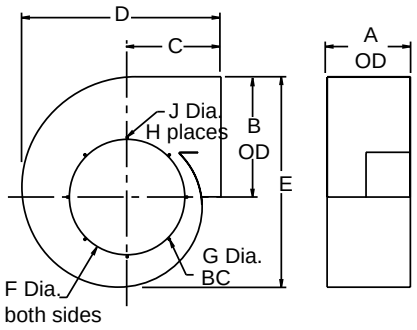


CCP-F Dimension Data

Size	A Sq.	B	C OD	D Dia.	E	F	H*	J Sq.	K Dia. Std. Const.		K Dia. Insultd Plug		L	M	N	P	Q	R	S	T Dia.	U Max.	Max. Mtr. Frame	Ship. Wt.	
									Class I	Class II	Class I	Class II											Class I	Class II
120	24	12	16	14-1/2	3-9/16	5/8	10-1/16	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	120	129
135	24	12	17-1/2	16	4-1/16	5/8	11-3/16	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	123	133
150	24	12	19	17-1/2	4-1/2	5/8	12-1/4	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	128	142
165	24	12	21	19	4-15/16	5/8	13-15/16	18	1-3/16	1-7/16	1-11/16	1-15/16	23-1/2	4	5-1/4	16	1-1/2	5/8	8	7/16	21-7/16	215T	136	153
180	26-1/2	13-1/4	22-1/2	20-1/2	5-3/8	5/8	14-3/8	20-1/2	1-3/16	1-7/16	1-11/16	2-3/16	26-1/2	4-1/4	5-7/8	16	1-1/2	5/8	8	7/16	23-7/16	254T	161	191
195	26-1/2	13-1/4	24	22	5-7/8	5/8	15-7/16	20-1/2	1-3/16	1-7/16	1-11/16	2-3/16	26-1/2	4-1/4	5-7/8	16	1-1/2	5/8	8	7/16	23-7/16	254T	180	214
210	26-1/2	14-3/4	25-3/4	23-3/4	6-5/16	3/4	16-1/2	23-1/2	1-7/16	1-11/16	1-11/16	2-3/16	28-1/2	4-1/4	6-5/8	16	1-1/2	5/8	8	7/16	23-15/16	256T	229	263
225	26-1/2	14-3/4	27-1/4	25-1/4	6-3/4	3/4	17-9/16	23-1/2	1-7/16	1-11/16	1-11/16	2-3/16	28-1/2	4-1/4	6-5/8	16	1-1/2	5/8	8	7/16	23-15/16	256T	234	273
245	34	17	29-1/4	27-1/4	7-5/16	3/4	19	28	1-11/16	1-15/16	1-11/16	2-3/16	29-15/16	5-1/4	6-3/16	20	1-1/2	5/8	8	7/16	25-15/16	284T	314	363
270	34	17	31-3/4	29-3/4	8-3/8	3/4	21-1/8	28	1-11/16	1-15/16	1-15/16	2-3/16	29-15/16	5-1/4	6-3/16	20	1-1/2	5/8	8	9/16	25-15/16	284T	329	386
300	40	20	34-3/4	32-3/4	9	1	22-7/8	36	1-15/16	2-3/16	1-15/16	2-7/16	33-1/2	5-7/8	7-13/32	20	1-1/2	5/8	8	9/16	28-5/8	324T	480	539
330	40	20	37-3/4	35-3/4	9-7/8	1	25	36	1-15/16	2-3/16	1-15/16	2-7/16	33-1/2	5-7/8	7-13/32	20	1-1/2	5/8	12	9/16	28-5/8	324T	503	584
365	47-1/4	23-5/8	41-1/4	39-1/4	10-15/	1	27-3/8	41-1/4	2-3/16	2-7/16	2-3/16	2-7/16	35	5-7/8	7-3/8	24	1-1/2	5/8	12	9/16	28-7/8	326T	648	750
402	47-1/4	23-5/8	45	43	12-1/16	1	30-3/16	41-1/4	2-3/16	2-7/16	2-3/16	2-15/16	35	5-7/8	7-3/8	24	1-1/2	3/4	12	9/16	28-7/16	326T	727	806
445	51-1/2	25-3/4	49-1/4	47-1/4	13-3/8	1	33-1/4	45-1/2	2-7/16	2-15/16	2-7/16	2-15/16	36-1/4	6-3/8	6-15/16	28	1-1/2	3/4	12	9/16	31-7/8	364T	881	959

All dimensions in inches. Weights in lbs., less motor.
* Add 4" to "H" dimension if using optional insulated plug.

Blower Scroll

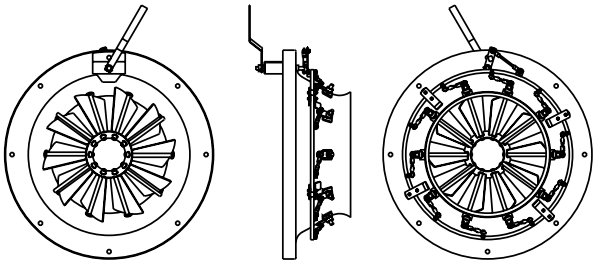


A conventional centrifugal fan housing is available for applications requiring directional airflow or outlet ductwork connection. To facilitate custom installation, housing is supplied without flanges or support bracing. Housing is designed to mount to plenum wall. Cataloged performance is based on fans without housing.

CCP Size	A OD	B OD	C	D	E	F Dia.	G Dia.	H	J Dia.	Ship Wt.
120	9-3/8	13-5/16	12-1/8	23-9/16	22-7/8	13-1/2	14-1/2	8	29/64	30
135	10-9/16	14-15/16	13-1/8	25-15/16	25-3/4	15	16	8	29/64	37
150	11-11/16	16-5/8	13-13/16	28-1/16	29-1/2	16-1/2	17-1/2	8	29/64	45
165	12-7/8	18-1/4	14-7/8	30-9/16	31-7/16	18	19	8	29/64	56
180	14	19-7/8	15-5/8	32-3/4	34-5/16	19-1/2	20-1/2	8	29/64	72
195	15-3/16	21-1/2	16-13/16	35-5/16	37-1/8	21	22	8	29/64	86
210	16-5/16	23-3/16	20	39-15/16	40-1/16	22-3/4	23-3/4	8	29/64	89
225	17-7/16	24-13/16	39-15/16	42	42-15/16	24-1/4	25-1/4	8	29/64	92
245	19	27	21-3/4	45-1/16	46-11/16	26-1/4	27-1/4	8	29/64	126
270	20-7/8	29-3/4	23-3/8	49-1/16	51-1/2	28-3/4	29-3/4	8	29/64	160
300	23-1/4	33-1/16	25-7/8	54-3/8	57-3/16	31-3/4	32-3/4	8	29/64	260
330	25-9/16	36-3/8	28-7/16	59-13/16	62-15/16	34-3/4	35-3/4	12	39/64	290
365	28-3/16	40-3/16	31-7/16	66-1/8	69-5/8	38-1/4	39-1/4	12	39/64	355
402	31-1/16	44-5/16	34-11/16	72-15/16	76-11/16	42	43	12	39/64	460
445	34-5/16	48-15/16	38-5/16	80-9/16	84-3/4	46-1/4	47-1/4	12	39/64	530

All dimensions in inches.

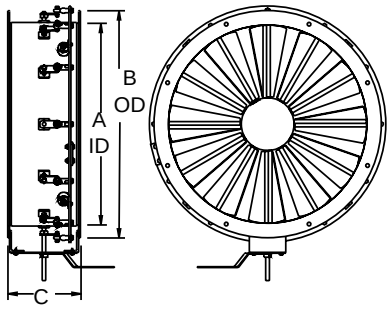
Inlet Vane Damper - Nested



CCP Size	Approx. Ship Wt. Lbs.
	Alum.
245	26
270	28
300	32
330	35
365	40
402	44
445	49

All dimensions in inches.

Inlet Vane Damper - External



CCP Size	A	B	C	Approx. Ship Wt. Lbs.	
				Alum.	Steel
120	12-7/8	15-7/8	10	20	59
135	14-3/8	17-3/8	10	23	69
150	15-7/8	18-7/8	10	26	79
165	17-3/8	20-3/8	10	30	89
180	18-7/8	21-7/8	10	33	98
195	20	23	10	36	108
210	21-3/4	24-3/4	10	39	117
225	23-1/4	26-1/4	10	42	126

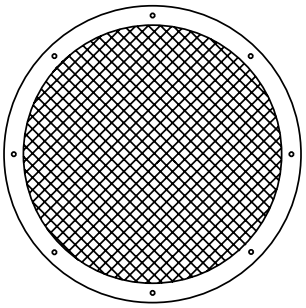
CCP Size	A	B	C	Approx. Ship Wt. Lbs.	
				Alum.	Steel
245	25-1/4	28-1/4	10	47	141
270	27-1/4	31-1/4	10	54	161
300	30-1/4	34-1/4	10	62	185
330	33-1/4	37-1/4	10	70	209
365	36-3/4	40-3/4	10	79	237
402	40-1/2	44-1/2	11	89	267
445	44-3/4	48-3/4	11	100	301

All dimensions in inches.

Inlet vane dampers are available in nested or external type. An inlet vane damper is used to provide precise air volume control while maintaining maximum efficiency and stable operation at part load conditions. Nested type Inlet Vane Dampers are typically used in non-ducted applications, while external Inlet Vane Dampers are use in ducted applications. Nested type is available on sizes 245 to 445. External type is available on sizes 120 to 445. Inlet vane dampers are suitable for temperatures up to 200°F. Cataloged performance is based on fan without an inlet vane damper.

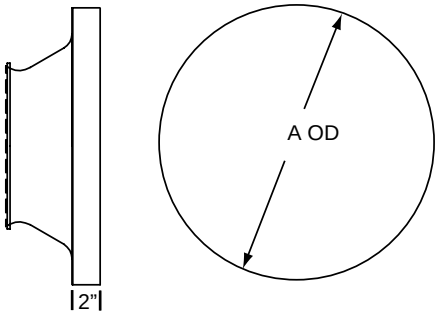
Accessories

Inlet Safety Screen



A removable inlet screen is available to provide protection of non-ducted inlets. Cataloged performance is based on fans without inlet safety screens.

Inlet Collar



An inlet collar is available to provide for a round slip fit inlet connection. An inlet collar is supplied as an integral part of the inlet cone, when specified.

CCP Size	A
120	16-1/8
135	17-5/8
150	19-1/8
165	21-3/16
180	22-11/16
195	24-3/16
210	25-15/16
225	27-7/16

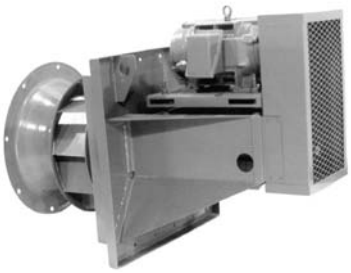
CCP Size	A
245	29-7/16
270	31-15/16
300	34-15/16
330	37-15/16
365	41-7/16
402	45-3/16
445	49-7/16

All dimensions in inches.

Shaft Guard

A shaft guard is available to enclose the bearings and shaft. The shaft guard is constructed with an expanded metal insert and solid frame.

Belt Guard



A belt guard is available which encases the drive assembly. It is available in standard three-sided construction or fully enclosed OSHA construction.

Shaft Cooler

The shaft cooler is an aluminum casting with radial vanes which is mounted on the shaft between the inboard bearing and the fan mounting panel. The shaft cooler is designed to dissipate heat which is conducted along the shaft and prevents excessive bearing temperatures. A shaft cooler is required for air temperature above 300°F.

Insulated Plug Package

A 4” thick insulated plug is available which provides a thermal protection barrier for the motor and bearings. This package also includes an oversized shaft and bearings to allow full class operation with the increased wheel overhang. The insulated plug also allows for the fan to be mounted on walls up to 4” thick. The insulated plug is an integral part of the unit and is not removable. An insulated plug is required for air temperatures above 300°F.

Additional Accessories

- **Steel Inlet Cone**
- **Shaft Seal**
- **Rub Ring**

High Temperature Construction (see table below)

High Temperature Bearings
High Temperature Paint
Baked Epoxy Powder
Motor Heat Shield

Temperature Range (°F)	Construction Features
-20 to 230	Standard Construction
231 to 300	High Temperature Paint
301 to 500	High Temperature Paint Motor Heat Shield Shaft Cooler No Aluminum Wheel Construction Insulated Plug Package
501 to 800	High Temperature Paint High Temperature Bearings Motor Heat Shield Shaft Cooler No Aluminum Construction Steel Inlet Cone Insulated Plug Package
801 and up	Consult Factory

Special Notes:

1. For each degree that the ambient temperature is above 100°F, the maximum airstream temperature is reduced by 5.5°F.
2. For elevated airstream temperatures, the maximum fan speed limits must be derated by the factors below.

Fan Construction Material	Operating Temperature (°F)	Speed Limit Factor
Carbon Steel	70	1.00
	200	0.98
	300	0.96
	400	0.94
	500	0.91
	600	0.87
	700	0.81
	800	0.75
Aluminum	70	1.00
	200	0.93
	300	0.79

Wheel Weights

Airfoil Steel and Aluminum Wheel Data

CCP Size	Airfoil Steel Wheel CCP-A				Airfoil Aluminum Wheel CCP-A			
	Class I		Class II		Class I		Class II	
	Wheel Wt.	Wk^2	Wheel Wt.	Wk^2	Wheel Wt.	Wk^2	Wheel Wt.	Wk^2
120	18	2	18	2	7	1	7	1
135	20	3	20	3	8	1	8	1
150	24	5	26	5	9	2	9	2
165	30	7	30	7	11	3	11	3
180	48	12	48	12	17	4	17	4
195	53	15	53	15	19	6	20	6
210	58	20	58	20	21	7	22	8
225	67	28	67	28	26	11	26	11
245	76	39	85	45	30	17	30	17
270	99	64	98	65	35	24	34	24
300	146	102	147	102	53	38	56	40
330	172	153	171	154	60	55	63	57
365	197	225	218	264	72	84	80	100
402	253	362	279	420	83	122	94	146
445	380	570	413	659	129	195	143	231

Flatblade Steel and Aluminum Wheel Data

CCP Size	Flatblade Steel Wheel CCP-F				Flatblade Aluminum Wheel CCP-F			
	Class I		Class II		Class I		Class II	
	Wheel Wt.	Wk^2	Wheel Wt.	Wk^2	Wheel Wt.	Wk^2	Wheel Wt.	Wk^2
120	17	2	20	3	6	1	6	1
135	20	3	24	4	7	1	7	1
150	23	4	30	6	8	1	8	2
165	29	7	35	9	9	2	10	2
180	48	11	59	16	15	3	18	5
195	51	14	66	22	17	5	21	7
210	60	21	73	29	18	6	23	9
225	65	27	81	37	21	8	25	11
245	74	37	101	57	24	12	29	16
270	96	62	118	83	28	18	34	24
300	143	98	188	151	47	31	61	47
330	168	148	221	225	53	44	70	67
365	193	217	258	335	63	69	80	99
402	266	390	327	523	82	120	94	145
445	396	613	473	815	128	192	143	231

Motor Selection Guidelines

For proper motor selection, consideration must be given to starting torque requirements along with operating BHP. The Airfoil Steel and Aluminum Wheel and Flatblade Steel and Aluminum Wheel tables (above) lists the WK^2 factor for different wheel sizes and types.In some cases it may be necessary to provide a larger horsepower motor, even though it may not be indicated by operating BHP, in order to bring the fan to speed. The following formula can be applied to determine the required motor starting torque.

$$\mathbf{WK^2_m = WK^2_f\ (FRPM / MRPM)^2\ (1.1)}$$

$\mathbf{WK^2_m}$ = the moment of inertia required at the motor shaft, Lb. per ft^2.

$\mathbf{WK^2_f}$ = the moment of inertia of the fan, Lb. per ft^2.

FRPM = Fan RPM. **MRPM** = Motor RPM.

Motor starting torque can vary greatly among motor manufacturers, the available WK^2_m of the motor should be obtained from the motor manufacturer.

Classification for Spark Resistant Construction

Type	Construction
A	All parts of the AMD in contact with the air or gas being handled shall be made of non-ferrous material
B	The AMD shall have a non-ferrous wheel and a non-ferrous ring about the opening through which the shaft passes.
C	The AMD shall be so constructed that a shift of the wheel or shaft will not permit two ferrous parts of the AMD to rub or strike

Note: Bearings shall not be placed in the air or gas stream. The user shall electrically ground all AMD parts. Nonferrous material is defined as having less than five percent iron or a material which is considered to be spark resistant. AMD - Air Moving Device.

Lorenized™ Fan Finish Specification

All steel fan components shall be finished with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Standard Color - Gray

Final Coat Thickness - Minimum 2 mils

Polyester Powder Testing Information

Impact Resistance	Test - ASTM D2794	Value - 100 inch-pounds
Pencil Hardness	Test - ASTM D3363	Value - 2H (Mar or Gouge)
Crosshatch Adhesion	Test - ASTM D3359 Method B	Value - 100%
Humidity Resistance	Test - ASTM D2247	Value - 1000+ Hours
Salt Spray	Test - ASTM B117	Value - 1000+ Hours
Continuous Service Temperature	Test - N/A	Value - 230°F (110°C)

Air Density Correction Factor (C_a)

Air Temp ^{0}F	Altitude in Feet Above Seal Level												
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	15000	20000
	Barometric Pressure in Inches of Mercury												
	29.92	28.86	27.82	26.82	25.84	24.90	23.98	23.09	22.22	21.39	20.58	16.89	13.75
-20	1.205	1.162	1.120	1.080	1.040	1.003	0.965	0.930	0.895	0.861	0.829	0.680	0.554
0	1.152	1.111	1.071	1.033	0.995	0.959	0.923	0.889	0.856	0.824	0.793	0.650	0.530
70	1.000	0.965	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.715	0.688	0.564	0.460
100	0.946	0.913	0.880	0.848	0.817	0.788	0.758	0.730	0.703	0.677	0.651	0.534	0.435
150	0.869	0.838	0.808	0.779	0.750	0.723	0.696	0.670	0.645	0.621	0.598	0.490	0.399
200	0.803	0.774	0.747	0.720	0.693	0.668	0.644	0.620	0.596	0.574	0.552	0.453	0.369
250	0.720	0.913	0.694	0.669	0.645	0.621	0.598	0.576	0.554	0.534	0.513	0.421	0.343
300	0.673	0.881	0.648	.0625	0.602	0.580	0.559	0.538	0.518	0.498	0.480	0.394	0.320
350	0.654	0.631	0.608	0.586	0.565	0.544	0.524	0.505	0.486	0.468	0.450	0.369	0.301
400	0.616	0.594	0.573	0.552	0.532	0.513	0.494	0.475	0.458	0.440	0.424	0.348	0.283
500	0.552	0.532	0.513	0.495	0.477	0.459	0.442	0.426	0.410	0.395	0.380	0.312	0.254
600	0.500	0.482	0.465	0.448	0.432	0.416	0.401	0.386	0.371	0.357	0.344	0.282	0.230
700	0.457	0.441	0.425	0.409	0.394	0.380	0.366	0.352	0.339	0.327	0.314	0.258	0.210
800	0.429	0.406	0.391	0.377	0.363	0.350	0.337	0.324	0.312	0.301	0.289	0.237	0.193

Unity Basis = Standard Air Density of .075 lb./ft^3. At sea level (29.92 in. Hg Barometric Pressure) this is equivalent to dry air at 70^0 F.

CCP "M" Factors (Used in Wall Proximity Calculations)

Size	120	135	150	165	180	195	210	225	245	270	300	330	365	402	445
CCP-A	.94	1.3	1.8	2.4	3.3	4.2	5.2	6.4	8.8	12	16	22	31	42	56
CCP-F	.98	1.4	1.9	2.5	3.5	4.4	5.6	6.8	9.3	12	17	23	32	43	58

AMCA Certified Ratings Seal does not apply when these factors are used.

Unhoused Wall Proximity Factors

%WOV	RPM/ BHP	One Wall			Two Wall		
		Ci/Di			Ci/DI		
		.25	.50	.75	.25	.50	.75
100	RPM	1.001	1.010	1.003	1.031	1.009	.998
	BHP	1.243	1.223	1.257	1.385	1.228	1.257
95	RPM	.996	1.001	.992	1.024	1.003	.994
	BHP	1.174	1.149	1.185	1.292	1.169	1.196
90	RPM	.994	.997	.988	1.021	.998	.993
	BHP	1.136	1.114	1.145	1.216	1.130	1.155
85	RPM	.995	.996	.988	1.019	.997	.992
	BHP	1.110	1.093	1.119	1.178	1.110	1.122
80	RPM	.997	.997	.989	1.020	.999	.993
	BHP	1.088	1.075	1.100	1.140	1.092	1.098
75	RPM	.999	.999	.992	1.020	1.001	.994
	BHP	1.068	1.060	1.085	1.115	1.076	1.077
70	RPM	1.001	1.002	.995	1.020	1.003	.995
	BHP	1.057	1.050	1.072	1.095	1.059	1.069
65	RPM	1.005	1.005	1.001	1.022	1.006	.997
	BHP	1.059	1.037	1.075	1.078	1.050	1.058
60	RPM	1.008	1.008	1.005	1.024	1.009	1.001
	BHP	1.057	1.033	1.090	1.071	1.052	1.061
55	RPM	1.012	1.013	1.010	1.026	1.012	1.005
	BHP	1.061	1.045	1.100	1.077	1.058	1.074
50	RPM	1.016	1.018	1.014	1.030	1.016	1.009
	BHP	1.067	1.047	1.099	1.084	1.063	1.079
45	RPM	1.022	1.027	1.021	1.034	1.022	1.015
	BHP	1.074	1.064	1.090	1.090	1.069	1.079

"Di" is the wheel diameter in inches. "Ci" is the clearance between wheel tip and wall in inches. For multiple wall conditions, there may be several values for "Ci." In cases with more than one Ci, choose the Ci value that results in the highest combination of RPM and BHP factors. AMCA Certified Ratings Seal does not apply when these factors are used.

Fan Selection Procedure

Fan Selection Procedure and Example

The CCP performance data is based on standard air which is 70^0F dry, and sea level pressure (29.92 inches of mercury). This is equal to a density of 0.075 lb. per cubic foot.

When selecting a CCP for your application, correct for altitude, temperature and wheel to wall arrangement. Make the necessary corrections for these conditions when using the following procedures.

For sample data in selecting a fan, the following system requirements will be used.

8800 CFM; 2" static pressure; 400^0F temperature; and 6,000 ft. altitude; located 13-1/2" from a sidewall.

Step 1

Correct the operating static pressure to standard conditions based on operating temperature and altitude. Use the *Air Density Correction Factor (C_a)* table on page 9. The air density correction factor (Ca) is 0.494 based on an altitude of 6,000 ft. and a temperature of 400^0F.

$SP_{STD} = SP_{OPER} / C_a$ **$SP_{STD} = 2 / 0.494 = 4.05$ or approximately 4"**

Step 2

Select the size of the fan needed to operate at the desired CFM and standard static pressure by using the performance tables beginning on page 11.

For the sample fan, 270 CCP-A is used. From the performance table, the cataloged performance sample is 1400 RPM and 9.36 BHP by linear interpolation. The 9.36 BHP is for 0.075 density and not actual operating density.

Step 3

Calculate the Wide Open Volume (WOV) by multiplying the FAN RPM, found in the selected fan performance table, by the "M" factor found for the selected fan in the table *CCP "M" Factors* on page 9.

WOV = M x FRPM

To determine the percent of WOV use the following equation.

CFM/WOV = %WOV

For the sample fan, the "M" factor for a 270 CCP-A is 12.

12 x 1400 RPM = 16800 CFM WOV **%WOV = 8800 / 16800 %WOV = 52%**

Step 4

Obtain Ci/Di wall proximity relationship factor. "Ci" is the clearance between wheel tip and wall. "Di" is the wheel diameter. In cases with more than one Ci, choose the Ci value that results in the highest combination of RPM and BHP factors. ("Ci" and "Di" relationships are illustrated in the *Wheel and Wall Relationship* graphic at the base of this page.)

Ci/Di = Factor **13.5 / 27 = 0.5**

Step 5

Correct for unhoused wall proximity by multiplying the BHP and the fan RPM by the factors in the *Unhoused Wall Proximity Factors* table on page 9.

With a .5 relationship at one wall and 52% WOV (use 50% WOV), several factors are obtained from the *Unhoused Wall Proximity Factors* table.

Correction for BHP - 1.047; Correction for RPM - 1.018; 9.36 BHP x 1.047 = 9.80 BHP; and 1400 RPM x 1.018 = 1425 RPM

Step 6

Convert the BHP obtained in Step 5 and convert it to actual operating BHP by multiplying it by the air density correction factor (C_a). If the operating temperature is higher than the start-up temperature, a larger motor may be required to prevent overload at start-up.

$BHP_{OPER} = BHP_{STD} \times C_{aOPER}$ **9.80 x 0.494 (400^0F at 6,000 ft.) = 4.84 operating BHP**

To establish BHP at start-up temperature, repeat Step 6 using C_a based on start-up temperature.

$BHP_{START\text{-}UP} = BHP_{STD} \times C_{aSTART\text{-}UP}$ **9.80 X 0.801 (70^0F at 6,000 ft.) = 7.85 start-up BHP at 70^0F**

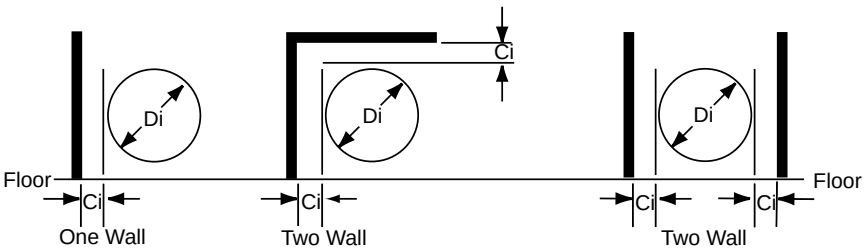
The resulting sample fan selection for the 270 CCP is as follows.

1425 RPM - operating RPM

4.84 - operating BHP

7.85 - start-up BHP

Wheel and Wall Relationship



Cataloged performances includes effects of the floor. See performance data tables on pages 11 - 25 for specific distances. Air performance base on the distance between the floor or wall from the fan centerline.

120 CCP-A

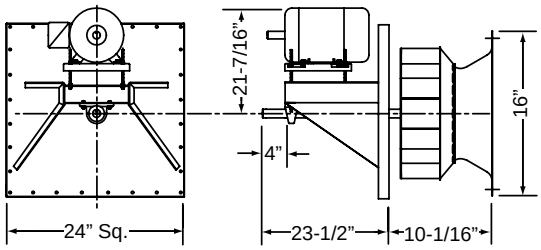
Wheel Diameter - 12”
Wheel Type - Airfoil
Tip Speed (FPM) = 3.14 x RPM
Max. BHP = .068 x (RPM/1000)^3
Inlet Area - .92 Sq. Ft.
Outlet Area - .94 Sq. Ft.
Outlet Velocity (FPM) = CFM/.94

Class I Max. RPM - 3948
Class II Max. RPM - 5151

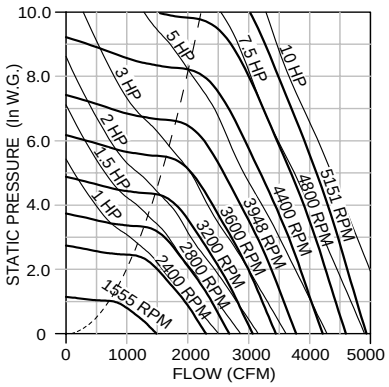
120 CCP-F

Wheel Diameter - 12”
Wheel Type - Flat Blade
Tip Speed (FPM) = 3.14 x RPM
Max. BHP = .091 x (RPM/1000)^3
Inlet Area - .92 Sq. Ft.
Outlet Area - .94 Sq. Ft.
Outlet Velocity (FPM) = CFM/.94

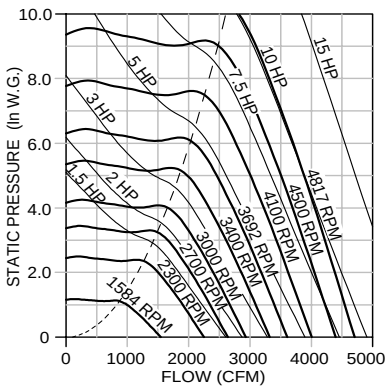
Class I Max. RPM - 3692
Class II Max. RPM - 4817



120 CCP-A



120 CCP-F



120 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
800	849	1555	.24																		
1000	1061	1656	.3	1783	.37	1911	.44	2042	.52												
1200	1273	1796	.39	1906	.46	2013	.54	2118	.61	2225	.7	2441	.89								
1400	1486	1947	.5	2052	.59	2149	.67	2242	.75	2333	.84	2514	1.02	2698	1.24						
1600	1698	2104	.62	2204	.72	2297	.82	2385	.92	2469	1.02	2631	1.21	2789	1.41	3110	1.89				
1800	1910	2270	.77	2362	.87	2451	.99	2536	1.1	2617	1.22	2768	1.43	2913	1.65	3195	2.11	3481	2.65	3769	3.24
2000	2123	2442	.94	2527	1.06	2610	1.18	2691	1.3	2769	1.43	2916	1.69	3054	1.93	3313	2.4	3566	2.93	3823	3.53
2200	2335	2621	1.15	2698	1.27	2776	1.4	2851	1.53	2926	1.67	3068	1.95	3201	2.23	3448	2.75	3680	3.28	3910	3.86
2400	2547	2806	1.4	2877	1.53	2947	1.66	3018	1.8	3088	1.94	3223	2.24	3353	2.55	3592	3.15	3812	3.71	4025	4.29
2600	2760	2994	1.68	3060	1.82	3125	1.96	3190	2.1	3255	2.25	3384	2.56	3508	2.89	3742	3.56	3956	4.19	4157	4.8
2800	2972	3187	2	3246	2.15	3307	2.3	3367	2.45	3428	2.61	3549	2.93	3668	3.27	3894	3.99	4103	4.7	4297	5.36
3000	3184	3381	2.36	3437	2.52	3492	2.68	3549	2.85	3606	3.01	3720	3.35	3832	3.7	4049	4.45	4254	5.22	4445	5.97
3200	3397	3577	2.77	3630	2.94	3682	3.11	3735	3.29	3787	3.46	3895	3.82	4000	4.18	4208	4.95	4407	5.77	4594	6.59
3400	3609	3774	3.23	3825	3.41	3874	3.59	3923	3.78	3974	3.96	4074	4.34	4173	4.71	4372	5.5	4563	6.35	4746	7.23
3600	3821	3972	3.74	4021	3.93	4068	4.12	4115	4.32	4162	4.51	4255	4.91	4350	5.3	4539	6.12	4723	6.99	4901	7.91
3800	4033	4172	4.31	4218	4.51	4263	4.71	4308	4.91	4352	5.12	4442	5.54	4531	5.95	4710	6.8	4887	7.69	5059	8.63
4000	4246	4371	4.92	4416	5.14	4460	5.35	4503	5.57	4545	5.78	4629	6.22	4714	6.66	4884	7.54	5054	8.46		
4200	4458	4572	5.61	4615	5.83	4658	6.06	4699	6.28	4740	6.51	4820	6.97	4900	7.42	5061	8.34				
4400	4670	4773	6.36	4815	6.59	4856	6.83	4895	7.06	4934	7.29	5012	7.78	5088	8.25						
4600	4883	4974	7.17	5015	7.42	5055	7.67	5094	7.91	5132	8.16										

120 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	1061	1584	.36	1705	.45																
1200	1273	1724	.47	1825	.55	1924	.65	2025	.75												
1400	1486	1877	.6	1971	.7	2060	.8	2146	.9	2231	1.01	2404	1.26								
1600	1698	2039	.76	2125	.87	2209	.98	2290	1.09	2367	1.21	2516	1.45	2666	1.72						
1800	1910	2208	.96	2289	1.08	2366	1.2	2441	1.32	2515	1.45	2654	1.7	2788	1.98	3055	2.59				
2000	2123	2384	1.2	2458	1.32	2531	1.46	2601	1.59	2670	1.72	2802	2	2928	2.29	3168	2.9	3409	3.59		
2200	2335	2565	1.47	2633	1.61	2701	1.76	2767	1.9	2831	2.04	2956	2.34	3077	2.65	3302	3.28	3519	3.97	3739	4.74
2400	2547	2748	1.8	2813	1.95	2876	2.1	2937	2.26	2998	2.41	3116	2.73	3231	3.06	3447	3.73	3651	4.44	3849	5.19
2600	2760	2933	2.16	2995	2.33	3054	2.5	3113	2.67	3171	2.84	3282	3.17	3390	3.52	3597	4.23	3793	4.97	3979	5.74
2800	2972	3121	2.59	3180	2.77	3236	2.95	3291	3.13	3347	3.31	3452	3.67	3555	4.04	3753	4.79	3941	5.56	4120	6.37
3000	3184	3312	3.07	3368	3.27	3421	3.46	3473	3.65	3525	3.84	3627	4.23	3724	4.62	3913	5.41	4094	6.23	4267	7.07
3200	3397	3502	3.61	3555	3.81	3608	4.03	3658	4.23	3707	4.44	3804	4.85	3897	5.26	4077	6.1	4250	6.95	4418	7.83
3400	3609	3697	4.22	3747	4.44	3795	4.66	3843	4.87	3892	5.1	3983	5.53	4072	5.97	4245	6.85	4412	7.75	4574	8.67
3600	3821	3891	4.9	3936	5.12	3986	5.36	4032	5.6	4075	5.82	4164	6.28	4251	6.75	4416	7.68	4577	8.62	4733	9.58
3800	4033	4084	5.63	4132	5.89	4177	6.14	4220	6.38	4265	6.63	4350	7.12	4432	7.61	4592	8.59	4745	9.57		
4000	4246	4283	6.48	4326	6.73	4368	6.98	4412	7.25	4451	7.5	4533	8.01	4613	8.53	4769	9.57				
4200	4458	4481	7.39	4518	7.63	4563	7.93	4601	8.18	4644	8.47	4722	9.01	4799	9.55						
4400	4670	4678	8.39	4717	8.66	4757	8.95	4796	9.23												

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 9-3/8” from fan centerline.

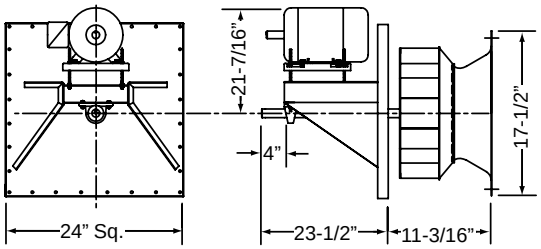
135 CCP-A/CCP-F Data

135 CCP-A
Wheel Diameter - 13.5”
Wheel Type - Airfoil
Tip Speed (FPM) = 3.53 x RPM
Max. BHP = .12 x (RPM/1000)^3
Inlet Area - 1.12 Sq. Ft.
Outlet Area - 1.90 Sq. Ft.
Outlet Velocity (FPM) = CFM/1.90

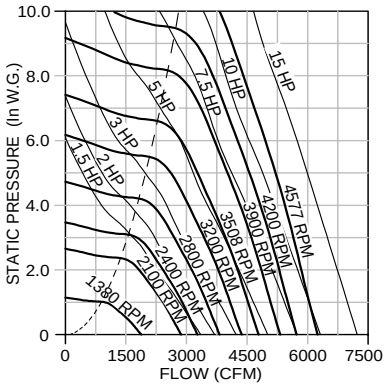
Class I Max. RPM - 3508
Class II Max. RPM - 4577

135 CCP-F
Wheel Diameter - 13.5”
Wheel Type - Flat Blade
Tip Speed (FPM) = 3.53 x RPM
Max. BHP = .16 x (RPM/1000)^3
Inlet Area - 1.12 Sq. Ft.
Outlet Area - 1.90 Sq. Ft.
Outlet Velocity (FPM) = CFM/1.90

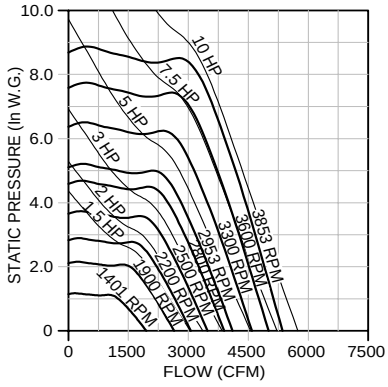
Class I Max. RPM - 2953
Class II Max. RPM - 3853



135 CCP-A



135 CCP-F



135 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	838	1380	.3																		
1250	1047	1465	.37	1579	.46	1695	.55	1813	.66												
1500	1257	1587	.49	1686	.58	1781	.67	1876	.77	1972	.88	2167	1.12								
1750	1466	1719	.62	1812	.73	1899	.83	1983	.94	2064	1.04	2227	1.28	2393	1.55						
2000	1676	1856	.77	1945	.89	2029	1.02	2107	1.14	2183	1.26	2327	1.5	2469	1.76	2759	2.37				
2250	1886	2000	.94	2083	1.08	2163	1.23	2239	1.37	2311	1.51	2447	1.78	2576	2.05	2830	2.63	3088	3.33		
2500	2095	2151	1.16	2227	1.31	2302	1.46	2374	1.62	2444	1.78	2576	2.09	2698	2.39	2930	2.99	3159	3.66	3391	4.42
2750	2305	2308	1.42	2377	1.57	2446	1.73	2515	1.9	2581	2.07	2708	2.42	2828	2.77	3047	3.42	3256	4.08	3464	4.83
3000	2514	2470	1.72	2533	1.88	2597	2.05	2660	2.22	2722	2.4	2844	2.78	2960	3.16	3174	3.91	3371	4.61	3561	5.34
3250	2724	2634	2.06	2693	2.24	2751	2.41	2811	2.6	2869	2.78	2984	3.17	3096	3.59	3305	4.42	3495	5.2	3676	5.97
3500	2933	2803	2.45	2857	2.64	2911	2.83	2966	3.03	3020	3.22	3129	3.62	3235	4.05	3437	4.95	3625	5.83	3798	6.66
3750	3143	2973	2.9	3024	3.1	3074	3.3	3125	3.51	3175	3.71	3277	4.13	3379	4.58	3573	5.51	3756	6.48	3927	7.41
4000	3352	3144	3.39	3193	3.61	3239	3.83	3288	4.05	3335	4.27	3430	4.71	3526	5.16	3712	6.13	3890	7.16	4058	8.18
4250	3562	3317	3.95	3363	4.18	3408	4.41	3452	4.64	3498	4.88	3587	5.34	3677	5.82	3854	6.8	4026	7.88	4191	8.98
4500	3772	3491	4.58	3535	4.82	3577	5.06	3620	5.31	3662	5.55	3746	6.04	3832	6.54	4000	7.56	4165	8.65	4325	9.81
4750	3981	3666	5.27	3707	5.52	3749	5.78	3789	6.04	3829	6.29	3910	6.82	3990	7.34	4150	8.39	4308	9.5	4463	10.7
5000	4191	3841	6.03	3882	6.3	3921	6.57	3960	6.84	3998	7.11	4074	7.65	4150	8.2	4302	9.3	4454	10.4		
5250	4400	4017	6.87	4056	7.15	4094	7.43	4131	7.71	4168	7.99	4240	8.56	4313	9.14	4458	10.3				
5500	4610	4194	7.78	4231	8.07	4268	8.37	4304	8.66	4339	8.96	4408	9.55	4477	10.1						
5750	4819	4370	8.77	4406	9.08	4442	9.39	4477	9.7	4511	10										

135 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1250	1047	1401	.45	1510	.56																
1500	1257	1522	.58	1613	.69	1703	.81	1794	.94												
1750	1466	1656	.74	1740	.86	1820	.99	1897	1.12	1974	1.26	2130	1.57								
2000	1676	1797	.94	1875	1.08	1950	1.21	2022	1.36	2091	1.5	2226	1.81	2361	2.15						
2250	1886	1946	1.18	2017	1.33	2087	1.48	2155	1.64	2220	1.79	2345	2.12	2465	2.46	2706	3.23				
2500	2095	2100	1.47	2167	1.64	2231	1.8	2294	1.96	2355	2.13	2474	2.48	2586	2.84	2802	3.61	3020	4.49		
2750	2305	2258	1.81	2319	1.99	2380	2.17	2439	2.35	2497	2.53	2608	2.9	2716	3.28	2919	4.08	3114	4.96	3312	5.93
3000	2514	2418	2.21	2476	2.4	2533	2.59	2589	2.79	2643	2.98	2748	3.38	2850	3.78	3044	4.63	3227	5.52	3406	6.48
3250	2724	2581	2.66	2636	2.87	2689	3.08	2742	3.29	2793	3.5	2894	3.92	2990	4.35	3176	5.24	3350	6.17	3518	7.15
3500	2933	2746	3.18	2799	3.41	2849	3.63	2898	3.85	2947	4.08	3043	4.54	3134	4.99	3311	5.93	3480	6.91	3640	7.92
3750	3143	2913	3.77	2963	4.01	3011	4.25	3058	4.49	3104	4.73	3195	5.22	3282	5.7	3451	6.69	3613	7.71	3768	8.77
4000	3352	3080	4.43	3127	4.68	3174	4.95	3220	5.21	3264	5.47	3350	5.98	3433	6.49	3594	7.53	3750	8.61		
4250	3562	3251	5.18	3296	5.45	3339	5.72	3381	5.99	3425	6.27	3507	6.82	3587	7.36	3742	8.46				
4500	3772	3421	6	3462	6.28	3505	6.58	3547	6.87	3587	7.16	3667	7.74	3744	8.32						
4750	3981	3590	6.9	3633	7.22	3673	7.53	3711	7.83	3752	8.15	3828	8.76								
5000	4191	3764	7.93	3804	8.26	3840	8.56														

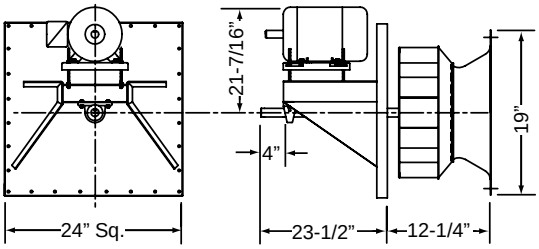
Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 10-1/8” from fan centerline.

150 CCP-A
Wheel Diameter - 15”
Wheel Type - Airfoil
Tip Speed (FPM) = 3.93 x RPM
Max. BHP = .21 x (RPM/1000)^3
Inlet Area - 1.39 Sq. Ft.
Outlet Area - 1.47 Sq. Ft.
Outlet Velocity (FPM) = CFM/1.47

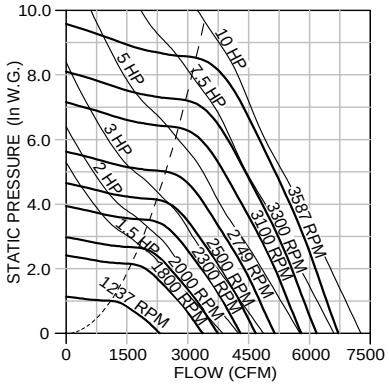
Class I Max. RPM - 2749
Class II Max. RPM - 3587

150 CCP-F
Wheel Diameter - 15”
Wheel Type - Flat Blade
Tip Speed (FPM) = 3.93 x RPM
Max. BHP = .28 x (RPM/1000)^3
Inlet Area - 1.39 Sq. Ft.
Outlet Area - 1.47 Sq. Ft.
Outlet Velocity (FPM) = CFM/1.47

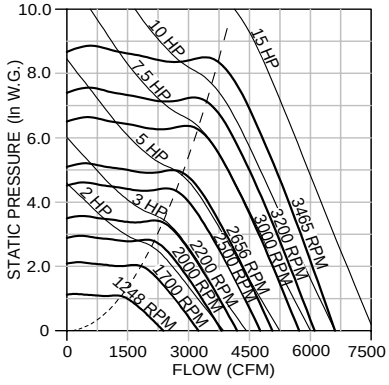
Class I Max. RPM - 2656
Class II Max. RPM - 3465



150 CCP-A



150 CCP-F



150 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	814	1237	.36																		
1500	1018	1305	.44	1411	.55	1519	.67														
1800	1221	1409	.58	1499	.68	1587	.8	1675	.92	1765	1.06										
2100	1425	1523	.73	1608	.86	1687	.98	1763	1.11	1839	1.24	1991	1.54	2145	1.87						
2400	1629	1642	.9	1723	1.06	1799	1.21	1871	1.35	1939	1.49	2072	1.78	2204	2.1	2473	2.85				
2700	1832	1767	1.11	1843	1.27	1916	1.45	1985	1.62	2050	1.79	2174	2.11	2293	2.43	2528	3.16	2767	4.01		
3000	2036	1897	1.35	1968	1.53	2036	1.71	2102	1.91	2166	2.1	2285	2.47	2397	2.83	2610	3.55	2822	4.39	3038	5.33
3300	2240	2033	1.65	2097	1.83	2161	2.03	2224	2.23	2285	2.44	2400	2.86	2509	3.27	2709	4.05	2902	4.87	3095	5.79
3600	2443	2173	1.99	2232	2.19	2291	2.39	2350	2.6	2407	2.82	2518	3.28	2624	3.74	2817	4.61	2998	5.46	3175	6.37
3900	2647	2316	2.38	2370	2.59	2425	2.81	2480	3.03	2533	3.25	2640	3.73	2741	4.23	2931	5.22	3104	6.15	3269	7.07
4200	2851	2463	2.83	2513	3.06	2563	3.29	2614	3.52	2665	3.76	2765	4.25	2862	4.77	3046	5.85	3215	6.89	3374	7.88
4500	3054	2611	3.34	2657	3.58	2705	3.83	2752	4.07	2799	4.32	2893	4.83	2986	5.37	3164	6.51	3330	7.66	3485	8.75
4800	3258	2761	3.91	2805	4.17	2848	4.43	2893	4.69	2937	4.95	3025	5.49	3113	6.04	3285	7.22	3447	8.46		
5100	3462	2912	4.55	2954	4.82	2995	5.1	3035	5.37	3077	5.65	3160	6.21	3244	6.79	3408	8	3565	9.29		
5400	3665	3064	5.26	3104	5.55	3143	5.84	3181	6.13	3220	6.42	3299	7.02	3377	7.61	3534	8.86				
5700	3869	3216	6.04	3255	6.35	3292	6.65	3329	6.96	3365	7.27	3440	7.9	3513	8.51						
6000	4073	3370	6.92	3407	7.24	3442	7.55	3477	7.87	3512	8.19	3582	8.85								
6300	4276	3523	7.86	3559	8.2																

150 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1018	1248	.54	1350	.68																
1800	1221	1351	.69	1434	.82	1517	.97	1602	1.13												
2100	1425	1466	.87	1543	1.02	1616	1.17	1687	1.34	1758	1.51	1905	1.9								
2400	1629	1589	1.1	1660	1.27	1728	1.43	1794	1.6	1857	1.78	1981	2.16	2108	2.59						
2700	1832	1718	1.38	1783	1.56	1847	1.74	1908	1.92	1968	2.12	2082	2.51	2193	2.93	2418	3.89				
3000	2036	1851	1.71	1912	1.91	1971	2.1	2029	2.31	2085	2.51	2193	2.93	2296	3.37	2495	4.31	2700	5.42		
3300	2240	1987	2.1	2045	2.32	2101	2.53	2154	2.74	2208	2.97	2310	3.41	2408	3.88	2593	4.85	2774	5.93	2960	7.14
3600	2443	2126	2.55	2181	2.79	2234	3.02	2285	3.25	2335	3.49	2431	3.96	2525	4.46	2701	5.48	2868	6.56	3035	7.76
3900	2647	2269	3.07	2320	3.32	2369	3.57	2418	3.83	2465	4.08	2556	4.59	2645	5.11	2815	6.19	2974	7.31	3127	8.51
4200	2851	2413	3.67	2461	3.94	2508	4.21	2554	4.48	2598	4.75	2685	5.29	2770	5.85	2932	6.98	3086	8.16	3231	9.38
4500	3054	2557	4.33	2603	4.62	2648	4.92	2692	5.21	2734	5.49	2817	6.07	2898	6.66	3053	7.86	3201	9.09	3342	10.4
4800	3258	2704	5.09	2747	5.39	2789	5.7	2831	6.01	2873	6.33	2951	6.94	3029	7.57	3178	8.83	3320	10.1	3456	11.5
5100	3462	2851	5.93	2893	6.26	2934	6.6	2973	6.92	3011	7.24	3088	7.9	3163	8.57	3305	9.9	3442	11.3		
5400	3665	3001	6.88	3040	7.22	3077	7.56	3116	7.92	3154	8.27	3227	8.97	3298	9.66	3435	11.1				
5700	3869	3149	7.91	3186	8.27	3225	8.66	3261	9.02	3296	9.38	3366	10.1	3434	10.8						
6000	4073	3299	9.06	3337	9.46	3371	9.83	3406	10.2	3441	10.6										

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 10-7/8” from fan centerline.

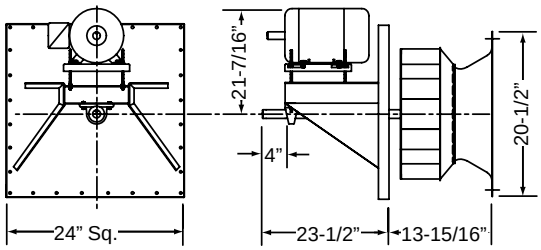
165 CCP-A/CCP-F Data

165 CCP-A
Wheel Diameter - 16.5”
Wheel Type - Airfoil
Tip Speed (FPM) = 4.32 x RPM
Max. BHP = .33 x (RPM/1000)^3
Inlet Area - 1.67 Sq. Ft.
Outlet Area - 1.78 Sq. Ft.
Outlet Velocity (FPM) = CFM/1.78

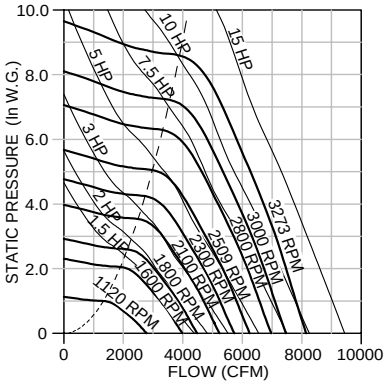
Class I Max. RPM - 2509
Class II Max. RPM - 3273

165 CCP-F
Wheel Diameter - 16.5”
Wheel Type - Flat Blade
Tip Speed (FPM) = 4.32 x RPM
Max. BHP = .45 x (RPM/1000)^3
Inlet Area - 1.67 Sq. Ft.
Outlet Area - 1.78 Sq. Ft.
Outlet Velocity (FPM) = CFM/1.78

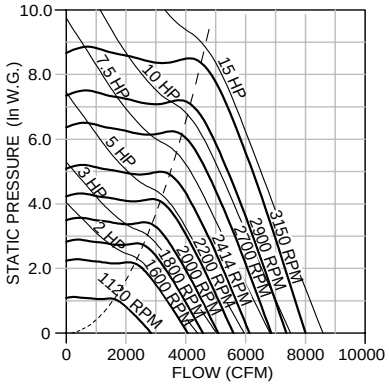
Class I Max. RPM - 2414
Class II Max. RPM - 3150



165 CCP-A



165 CCP-F



165 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1400	785	1120	.42																		
1750	982	1172	.51	1273	.64	1375	.78														
2100	1178	1259	.66	1343	.79	1426	.92	1510	1.08	1595	1.24										
2450	1374	1358	.84	1436	.98	1509	1.13	1581	1.28	1652	1.44	1796	1.8	1942	2.2						
2800	1571	1462	1.03	1536	1.21	1606	1.38	1672	1.55	1735	1.71	1860	2.06	1985	2.46	2240	3.36				
3150	1767	1570	1.26	1640	1.45	1707	1.66	1771	1.86	1831	2.04	1945	2.41	2056	2.8	2279	3.7	2506	4.72		
3500	1964	1682	1.53	1748	1.73	1812	1.96	1873	2.18	1931	2.4	2041	2.83	2144	3.24	2343	4.11	2545	5.14	2749	6.27
3850	2160	1800	1.85	1860	2.07	1920	2.3	1978	2.54	2034	2.78	2141	3.28	2240	3.74	2426	4.65	2607	5.64	2790	6.78
4200	2356	1921	2.23	1976	2.46	2032	2.7	2087	2.95	2141	3.21	2243	3.75	2340	4.28	2518	5.28	2687	6.29	2852	7.38
4550	2553	2045	2.66	2097	2.91	2148	3.16	2199	3.42	2250	3.69	2348	4.25	2442	4.84	2616	5.97	2776	7.04	2930	8.14
4900	2749	2172	3.14	2220	3.42	2267	3.68	2315	3.96	2363	4.24	2457	4.82	2547	5.44	2717	6.7	2872	7.88	3019	9.03
5250	2946	2301	3.7	2345	3.98	2389	4.27	2434	4.56	2479	4.86	2567	5.46	2654	6.1	2819	7.45	2972	8.77	3113	10
5600	3142	2432	4.32	2473	4.63	2515	4.94	2556	5.24	2598	5.55	2681	6.17	2765	6.84	2924	8.24	3072	9.67	3212	11.1
5950	3338	2564	5.02	2603	5.34	2641	5.66	2681	5.99	2720	6.32	2798	6.97	2877	7.65	3030	9.1	3176	10.6		
6300	3535	2696	5.8	2734	6.14	2770	6.47	2807	6.82	2845	7.17	2917	7.85	2993	8.56	3139	10				
6650	3731	2830	6.66	2865	7.01	2900	7.37	2935	7.73	2970	8.09	3040	8.82	3111	9.56	3250	11.1				
7000	3928	2963	7.6	2998	7.98	3032	8.36	3065	8.73	3098	9.11	3165	9.88	3231	10.6						
7350	4124	3098	8.64	3131	9.03	3164	9.43	3195	9.82	3227	10.2										
7700	4320	3232	9.77	3264	10.2																

165 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1750	982	1120	.63																		
2100	1178	1206	.79	1285	.95	1363	1.13														
2450	1374	1306	.99	1377	1.17	1445	1.35	1512	1.55	1579	1.76										
2800	1571	1412	1.25	1478	1.44	1541	1.64	1602	1.84	1661	2.05	1778	2.51	1899	3.03						
3150	1767	1523	1.56	1585	1.77	1644	1.98	1701	2.2	1756	2.42	1862	2.89	1966	3.4						
3500	1964	1639	1.92	1696	2.15	1751	2.38	1805	2.62	1857	2.86	1957	3.35	2052	3.87	2241	5.03				
3850	2160	1758	2.35	1811	2.6	1863	2.85	1914	3.11	1963	3.36	2058	3.89	2148	4.43	2320	5.59	2492	6.9		
4200	2356	1880	2.85	1930	3.12	1978	3.39	2026	3.66	2072	3.94	2163	4.51	2249	5.08	2413	6.29	2569	7.59	2727	9.04
4550	2553	2003	3.42	2050	3.71	2096	4	2141	4.29	2185	4.59	2271	5.19	2353	5.8	2510	7.07	2658	8.41	2802	9.85
4900	2749	2128	4.06	2173	4.38	2216	4.69	2259	5.01	2301	5.33	2383	5.97	2461	6.62	2612	7.95	2754	9.35	2889	10.8
5250	2946	2254	4.79	2297	5.14	2339	5.48	2379	5.81	2419	6.15	2497	6.83	2572	7.52	2716	8.92	2853	10.4	2984	11.9
5600	3142	2383	5.63	2423	5.99	2463	6.35	2502	6.71	2539	7.06	2614	7.8	2685	8.52	2824	10	2956	11.5	3083	13.1
5950	3338	2511	6.54	2549	6.92	2588	7.32	2625	7.7	2662	8.09	2733	8.86	2801	9.62	2934	11.2	3061	12.8		
6300	3535	2641	7.57	2678	7.98	2715	8.4	2749	8.79	2785	9.21	2852	10	2919	10.8	3047	12.5				
6650	3731	2772	8.72	2806	9.13	2841	9.57	2876	10	2909	10.4	2975	11.3	3039	12.2						
7000	3928	2902	9.96	2936	10.4	2970	10.9	3002	11.3	3035	11.8	3098	12.7								
7350	4124	3034	11.3	3068	11.8	3098	12.3	3131	12.8												

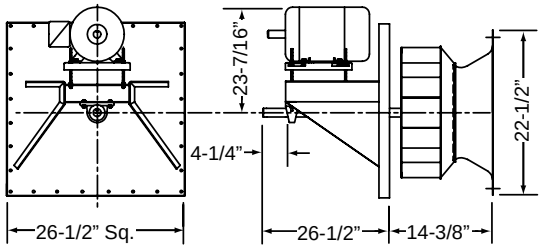
Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 11-7/8” from fan centerline.

180 CCP-A
Wheel Diameter - 18”
Wheel Type - Airfoil
Tip Speed (FPM) = 4.71 x RPM
Max. BHP = .48 x (RPM/1000)^3
Inlet Area - 2.025 Sq. Ft.
Outlet Area - 2.12 Sq. Ft.
Outlet Velocity (FPM) = CFM/2.12

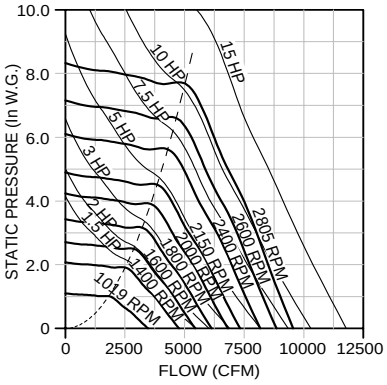
Class I Max. RPM - 2150
Class II Max. RPM - 2805

180 CCP-F
Wheel Diameter - 18”
Wheel Type - Flat Blade
Tip Speed (FPM) = 4.71 x RPM
Max. BHP = .58 x (RPM/1000)^3
Inlet Area - 2.025 Sq. Ft.
Outlet Area - 2.12 Sq. Ft.
Outlet Velocity (FPM) = CFM/2.12

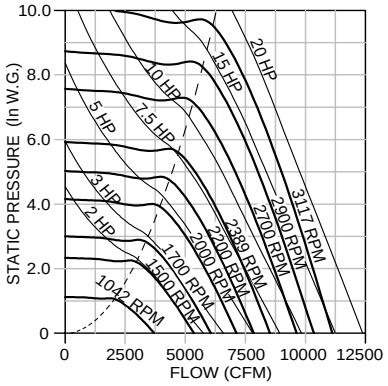
Class I Max. RPM - 2389
Class II Max. RPM - 3117



180 CCP-A



180 CCP-F



180 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	895	1019	.5																		
2250	1060	1080	.6	1157	.74																
2600	1225	1156	.74	1225	.88	1292	1.03	1360	1.2												
2950	1390	1233	.9	1303	1.06	1364	1.21	1423	1.38	1482	1.56	1606	1.96								
3300	1555	1306	1.06	1379	1.25	1442	1.43	1499	1.61	1552	1.79	1657	2.18	1766	2.62						
3650	1720	1381	1.25	1451	1.46	1518	1.67	1577	1.87	1629	2.06	1727	2.46	1822	2.9						
4000	1885	1462	1.46	1525	1.68	1590	1.92	1652	2.16	1707	2.38	1804	2.8	1892	3.24	2066	4.22				
4350	2050	1548	1.71	1605	1.94	1664	2.19	1724	2.45	1781	2.7	1882	3.19	1969	3.65	2129	4.62	2291	5.74		
4700	2215	1637	1.99	1690	2.24	1743	2.49	1798	2.76	1853	3.04	1957	3.58	2047	4.1	2202	5.1	2349	6.21	2502	7.46
5050	2380	1728	2.3	1778	2.57	1827	2.84	1877	3.11	1927	3.4	2030	4	2123	4.57	2279	5.65	2419	6.77	2556	7.99
5400	2545	1820	2.65	1868	2.94	1915	3.22	1960	3.51	2007	3.81	2102	4.43	2196	5.06	2358	6.26	2494	7.41	2622	8.63
5750	2710	1913	3.04	1959	3.34	2004	3.65	2047	3.95	2090	4.26	2178	4.9	2268	5.57	2434	6.89	2571	8.12	2696	9.36
6100	2876	2007	3.47	2052	3.79	2095	4.12	2136	4.43	2177	4.76	2258	5.41	2342	6.11	2508	7.54	2650	8.89	2772	10.2
6450	3041	2100	3.92	2145	4.28	2186	4.62	2226	4.96	2265	5.3	2342	5.99	2420	6.7	2580	8.21	2726	9.68		
6800	3206	2196	4.44	2239	4.82	2279	5.18	2317	5.53	2355	5.89	2429	6.61	2501	7.34	2653	8.9	2800	10.5		
7150	3371	2291	4.99	2332	5.38	2372	5.78	2410	6.16	2446	6.53	2516	7.28	2586	8.04	2727	9.63				
7500	3536	2386	5.59	2428	6.02	2466	6.43	2502	6.82	2538	7.22	2607	8.02	2673	8.8						
7850	3701	2484	6.26	2523	6.69	2559	7.11	2597	7.55	2631	7.97	2698	8.8	2761	9.61						
8200	3866	2580	6.96	2616	7.39	2655	7.87	2690	8.32	2724	8.76	2789	9.63								
8550	4031	2676	7.71	2714	8.2	2750	8.68	2783	9.13												

180 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	1060	1042	.65	1131	.81																
2600	1225	1099	.77	1178	.94	1254	1.12														
2950	1390	1164	.91	1236	1.09	1306	1.28	1375	1.49	1442	1.7										
3300	1555	1235	1.08	1302	1.27	1366	1.47	1430	1.69	1491	1.91	1612	2.38								
3650	1720	1310	1.29	1372	1.48	1433	1.69	1492	1.91	1549	2.14	1661	2.63	1771	3.16						
4000	1885	1388	1.52	1447	1.73	1504	1.96	1559	2.18	1613	2.42	1718	2.92	1820	3.47						
4350	2050	1469	1.78	1524	2.01	1578	2.25	1630	2.49	1682	2.74	1781	3.25	1877	3.81	2062	5.01				
4700	2215	1551	2.07	1604	2.33	1655	2.58	1705	2.84	1753	3.1	1848	3.63	1939	4.2	2114	5.44	2284	6.77		
5050	2380	1636	2.41	1685	2.67	1734	2.95	1782	3.22	1828	3.5	1918	4.06	2004	4.63	2172	5.91	2333	7.29	2490	8.74
5400	2545	1722	2.78	1769	3.06	1816	3.36	1861	3.65	1905	3.94	1991	4.53	2074	5.13	2233	6.42	2387	7.84	2536	9.34
5750	2710	1809	3.19	1854	3.49	1899	3.8	1942	4.11	1984	4.42	2066	5.04	2146	5.68	2299	7	2446	8.44	2589	9.99
6100	2876	1898	3.65	1941	3.97	1983	4.29	2024	4.62	2065	4.95	2144	5.61	2221	6.28	2367	7.63	2509	9.1	2645	10.7
6450	3041	1987	4.16	2028	4.49	2068	4.83	2108	5.18	2147	5.52	2223	6.22	2297	6.92	2439	8.34	2574	9.82	2706	11.4
6800	3206	2077	4.71	2117	5.07	2156	5.43	2193	5.78	2230	6.14	2303	6.87	2375	7.61	2512	9.1	2643	10.6	2770	12.2
7150	3371	2169	5.33	2206	5.69	2242	6.06	2280	6.45	2315	6.82	2386	7.59	2455	8.36	2587	9.91	2714	11.5	2836	13.1
7500	3536	2260	5.99	2295	6.37	2333	6.78	2367	7.16	2402	7.56	2469	8.35	2535	9.15	2664	10.8	2787	12.4	2905	14.1
7850	3701	2350	6.69	2388	7.13	2421	7.52	2455	7.93	2489	8.35	2554	9.18	2617	10	2742	11.7	2861	13.4	2977	15.2
8200	3866	2445	7.51	2479	7.93	2510	8.33	2545	8.78	2575	9.19	2638	10	2701	10.9	2821	12.7	2937	14.5	3049	16.3
8550	4031	2539	8.37	2569	8.78	2603	9.24	2633	9.67	2665	10.1	2726	11	2785	11.9	2902	13.8	3014	15.6		
8900	4196	2632	9.29	2661	9.71	2694	10.2	2723	10.6	2755	11.1	2813	12	2870	13	2984	14.9	3094	16.8		

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 12-5/8” from fan centerline.

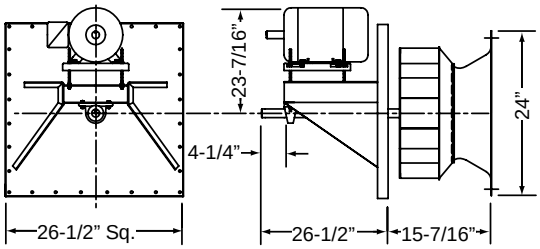
195 CCP-A/CCP-F Data

195 CCP-A
Wheel Diameter - 19.5”
Wheel Type - Airfoil
Tip Speed (FPM) = 5.11 x RPM
Max. BHP = .71 x (RPM/1000)^3
Inlet Area - 2.31 Sq. Ft.
Outlet Area - 2.49 Sq. Ft.
Outlet Velocity (FPM) = CFM/2.49

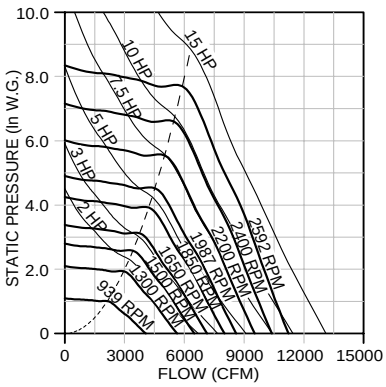
Class I Max. RPM - 1987
Class II Max. RPM - 2592

195 CCP-F
Wheel Diameter - 19.5”
Wheel Type - Flat Blade
Tip Speed (FPM) = 5.11 x RPM
Max. BHP = .86 x (RPM/1000)^3
Inlet Area - 2.31 Sq. Ft.
Outlet Area - 2.49 Sq. Ft.
Outlet Velocity (FPM) = CFM/2.49

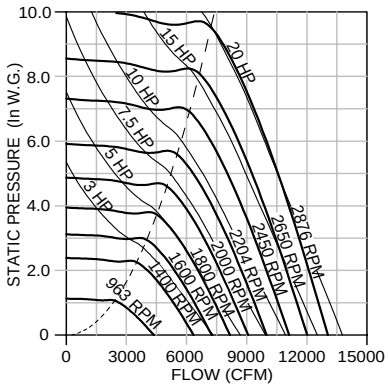
Class I Max. RPM - 2204
Class II Max. RPM - 2876



195 CCP-A



195 CCP-F



195 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2200	883	939	.59																		
2650	1064	998	.71	1070	.87	1147	1.06														
3100	1245	1076	.89	1139	1.05	1200	1.23	1261	1.43	1327	1.65										
3550	1426	1153	1.09	1218	1.29	1275	1.48	1328	1.67	1381	1.88	1490	2.35								
4000	1607	1226	1.31	1294	1.54	1353	1.77	1406	1.98	1455	2.19	1548	2.65	1644	3.16						
4450	1787	1304	1.56	1367	1.82	1428	2.08	1484	2.33	1533	2.57	1622	3.04	1707	3.55	1881	4.72				
4900	1968	1389	1.85	1444	2.12	1502	2.41	1558	2.7	1610	2.98	1701	3.51	1782	4.03	1935	5.17	2097	6.51		
5350	2149	1478	2.2	1528	2.48	1579	2.77	1632	3.09	1684	3.4	1779	4.01	1860	4.58	2005	5.75	2146	7.05	2296	8.54
5800	2330	1569	2.58	1616	2.89	1662	3.2	1709	3.52	1758	3.85	1853	4.54	1939	5.2	2082	6.43	2212	7.72	2343	9.18
6250	2511	1662	3.02	1707	3.35	1750	3.68	1793	4.01	1836	4.36	1926	5.08	2013	5.82	2161	7.19	2287	8.52	2407	9.95
6700	2691	1756	3.51	1799	3.87	1840	4.22	1880	4.57	1920	4.93	2002	5.68	2086	6.46	2239	8	2365	9.42	2480	10.9
7150	2872	1851	4.06	1892	4.44	1932	4.82	1970	5.19	2008	5.57	2083	6.34	2161	7.16	2314	8.84	2444	10.4	2558	11.9
7600	3053	1946	4.65	1986	5.06	2024	5.47	2061	5.87	2097	6.27	2168	7.08	2239	7.91	2386	9.68	2522	11.4		
8050	3234	2043	5.32	2082	5.76	2118	6.19	2154	6.62	2188	7.03	2256	7.89	2322	8.74	2460	10.6				
8500	3415	2138	6.03	2176	6.5	2213	6.98	2247	7.42	2281	7.88	2345	8.76	2408	9.66	2537	11.5				
8950	3595	2236	6.84	2273	7.34	2308	7.83	2341	8.3	2374	8.78	2436	9.72	2497	10.7						
9400	3776	2334	7.72	2369	8.23	2403	8.74	2437	9.27	2467	9.75	2529	10.8	2587	11.7						
9850	3957	2431	8.64	2465	9.19	2500	9.76	2531	10.3	2563	10.8										
10300	4138	2528	9.64	2564	10.3																

195 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2650	1064	963	.76	1045	.96																
3100	1245	1021	.91	1093	1.12	1163	1.34														
3550	1426	1088	1.11	1154	1.32	1217	1.55	1279	1.79	1340	2.04										
4000	1607	1161	1.34	1222	1.57	1280	1.8	1337	2.05	1393	2.32	1502	2.88								
4450	1787	1238	1.61	1294	1.86	1349	2.11	1402	2.37	1454	2.64	1554	3.22	1652	3.85						
4900	1968	1318	1.93	1371	2.19	1422	2.46	1472	2.74	1521	3.02	1615	3.62	1706	4.27	1883	5.65				
5350	2149	1401	2.29	1451	2.58	1499	2.87	1546	3.16	1592	3.46	1680	4.07	1766	4.73	1932	6.18	2093	7.72		
5800	2330	1486	2.7	1533	3.01	1578	3.32	1623	3.64	1666	3.95	1750	4.6	1832	5.28	1988	6.75	2139	8.36	2288	10.1
6250	2511	1573	3.16	1617	3.5	1660	3.83	1702	4.17	1743	4.5	1823	5.19	1901	5.9	2050	7.4	2193	9.06	2332	10.8
6700	2691	1661	3.69	1703	4.04	1744	4.4	1783	4.75	1823	5.12	1899	5.84	1973	6.58	2116	8.14	2252	9.82	2384	11.6
7150	2872	1751	4.28	1791	4.65	1829	5.03	1867	5.41	1904	5.79	1977	6.56	2048	7.34	2184	8.94	2315	10.7	2441	12.5
7600	3053	1841	4.93	1878	5.31	1916	5.72	1952	6.12	1987	6.52	2058	7.35	2126	8.18	2256	9.85	2381	11.6	2503	13.5
8050	3234	1932	5.65	1969	6.08	2004	6.49	2038	6.91	2072	7.33	2139	8.2	2205	9.08	2330	10.8	2451	12.6	2567	14.5
8500	3415	2025	6.46	2059	6.89	2092	7.32	2127	7.79	2158	8.22	2223	9.13	2286	10.1	2407	11.9	2523	13.8	2636	15.7
8950	3595	2117	7.33	2150	7.79	2183	8.26	2214	8.72	2246	9.19	2307	10.1	2368	11.1	2485	13	2597	15	2706	17
9400	3776	2210	8.29	2243	8.79	2273	9.26	2304	9.75	2334	10.2	2393	11.2	2452	12.2	2564	14.3	2673	16.3	2778	18.4
9850	3957	2305	9.36	2335	9.85	2365	10.4	2395	10.9	2423	11.4	2481	12.4	2536	13.5	2646	15.6	2751	17.7	2853	19.9
10300	4138	2400	10.5	2426	11	2458	11.6	2483	12	2514	12.6	2569	13.7	2622	14.8	2728	17	2830	19.2		
10750	4319	2494	11.7	2522	12.3	2549	12.8	2577	13.4	2604	13.9	2656	15	2709	16.2	2811	18.5				
11200	4499	2587	13.1	2617	13.7	2640	14.2	2670	14.8	2694	15.3	2747	16.5	2798	17.7						

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 13-5/8” from fan centerline.

210 CCP-A

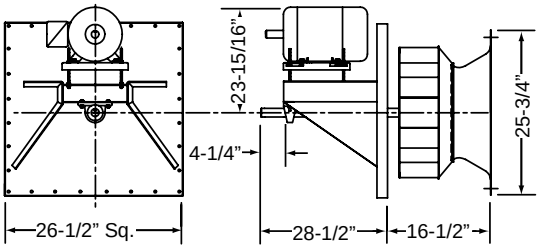
Wheel Diameter - 21”
Wheel Type - Airfoil
Tip Speed (FPM) = 5.50 x RPM
Max. BHP = 1.03 x $(RPM/1000)^3$
Inlet Area - 2.69 Sq. Ft.
Outlet Area - 2.89 Sq. Ft.
Outlet Velocity (FPM) = CFM/2.89

Class I Max. RPM - 1841
Class II Max. RPM - 2402

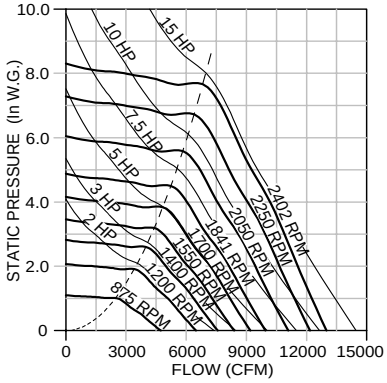
210 CCP-F

Wheel Diameter - 21”
Wheel Type - Flat Blade
Tip Speed (FPM) = 5.50 x RPM
Max. BHP = 1.25 x $(RPM/1000)^3$
Inlet Area - 2.69 Sq. Ft.
Outlet Area - 2.89 Sq. Ft.
Outlet Velocity (FPM) = CFM/2.89

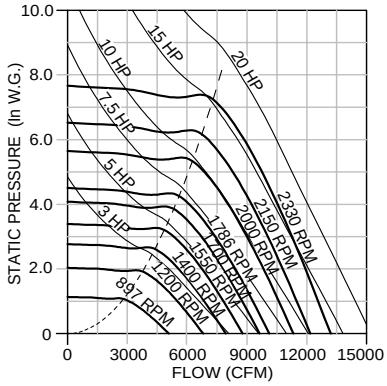
Class I Max. RPM - 1786
Class II Max. RPM - 2330



210 CCP-A



210 CCP-F



210 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2600	900	875	.69																		
3100	1074	931	.83	996	1.02	1066	1.24														
3600	1247	1000	1.03	1059	1.23	1115	1.43	1172	1.66	1232	1.91										
4100	1420	1068	1.26	1129	1.48	1181	1.7	1231	1.93	1280	2.17	1383	2.72								
4600	1593	1134	1.5	1197	1.77	1252	2.02	1300	2.27	1345	2.51	1433	3.04	1523	3.64						
5100	1767	1202	1.77	1262	2.07	1319	2.37	1370	2.65	1416	2.93	1498	3.47	1578	4.06	1743	5.42				
5600	1940	1277	2.09	1330	2.4	1384	2.73	1436	3.06	1485	3.38	1568	3.98	1643	4.58	1788	5.91				
6100	2113	1356	2.46	1403	2.79	1452	3.13	1501	3.48	1550	3.84	1638	4.54	1713	5.18	1848	6.52	1982	8.04		
6600	2286	1436	2.88	1481	3.23	1524	3.58	1570	3.96	1616	4.34	1705	5.12	1783	5.85	1916	7.25	2039	8.76	2163	10.4
7100	2460	1519	3.35	1561	3.73	1602	4.1	1642	4.48	1684	4.88	1770	5.72	1850	6.54	1986	8.08	2104	9.61	2217	11.3
7600	2633	1602	3.88	1643	4.29	1681	4.68	1719	5.08	1757	5.49	1836	6.35	1915	7.24	2056	8.97	2173	10.6	2281	12.3
8100	2806	1687	4.47	1725	4.89	1762	5.32	1798	5.74	1834	6.17	1906	7.06	1981	8	2124	9.89	2243	11.6	2349	13.4
8600	2979	1770	5.09	1808	5.56	1844	6.02	1879	6.47	1913	6.92	1980	7.84	2049	8.8	2189	10.8	2313	12.8		
9100	3153	1856	5.81	1893	6.31	1928	6.79	1961	7.27	1994	7.75	2057	8.7	2122	9.7	2254	11.8	2380	13.9		
9600	3326	1942	6.58	1977	7.1	2011	7.62	2044	8.14	2075	8.63	2136	9.64	2197	10.7	2321	12.8				
10100	3499	2026	7.4	2062	7.98	2096	8.54	2127	9.07	2157	9.59	2217	10.7	2274	11.7	2390	13.9				
10600	3672	2114	8.34	2148	8.93	2179	9.49	2212	10.1	2241	10.6	2298	11.8	2353	12.9						
11100	3846	2201	9.34	2233	9.94	2265	10.6	2296	11.2	2325	11.8	2381	13								
11600	4019	2287	10.4	2320	11.1	2351	11.7	2379	12.3												

210 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3100	1074	897	.89	972	1.12																
3600	1247	949	1.06	1016	1.3	1081	1.56														
4100	1420	1008	1.27	1069	1.52	1129	1.79	1187	2.07	1243	2.36										
4600	1593	1073	1.53	1129	1.79	1184	2.06	1238	2.36	1290	2.67	1391	3.31								
5100	1767	1141	1.83	1194	2.11	1245	2.4	1295	2.7	1343	3.01	1438	3.7	1529	4.41						
5600	1940	1212	2.17	1262	2.48	1310	2.79	1356	3.1	1402	3.43	1490	4.12	1576	4.87	1743	6.47				
6100	2113	1285	2.56	1332	2.89	1377	3.22	1422	3.56	1464	3.9	1548	4.61	1629	5.38	1785	7.04				
6600	2286	1360	3	1405	3.36	1448	3.72	1489	4.07	1530	4.44	1609	5.18	1686	5.96	1833	7.66	1976	9.51		
7100	2460	1437	3.5	1479	3.88	1520	4.27	1560	4.66	1598	5.03	1674	5.82	1747	6.63	1887	8.36	2022	10.3	2153	12.3
7600	2633	1516	4.07	1555	4.47	1593	4.87	1631	5.28	1669	5.7	1741	6.53	1810	7.36	1944	9.14	2073	11.1	2198	13.2
8100	2806	1595	4.7	1632	5.12	1668	5.54	1705	5.98	1741	6.42	1810	7.3	1876	8.18	2005	10	2128	12	2247	14.1
8600	2979	1675	5.39	1711	5.84	1745	6.28	1780	6.75	1814	7.21	1880	8.14	1944	9.07	2067	11	2186	13	2300	15.1
9100	3153	1755	6.15	1790	6.63	1824	7.12	1856	7.59	1889	8.08	1952	9.05	2014	10	2133	12	2247	14.1		
9600	3326	1838	7.02	1870	7.5	1902	8	1934	8.51	1965	9.02	2026	10	2085	11.1	2200	13.2	2310	15.3		
10100	3499	1920	7.94	1950	8.44	1982	8.99	2012	9.51	2041	10	2101	11.1	2157	12.2	2269	14.4				
10600	3672	2001	8.93	2033	9.51	2062	10	2091	10.6	2121	11.2	2176	12.3	2231	13.4						
11100	3846	2085	10.1	2115	10.6	2141	11.2	2172	11.8	2198	12.3	2253	13.5	2307	14.7						
11600	4019	2170	11.3	2196	11.8	2225	12.5	2252	13.1	2279	13.7										
12100	4192	2254	12.6	2279	13.2	2307	13.8														

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 14-1/4” from fan centerline.

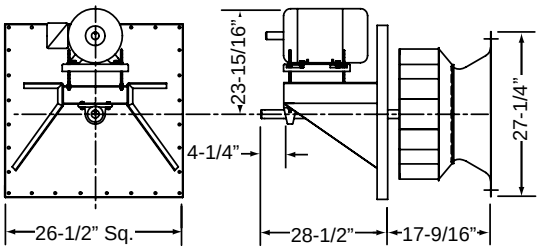
225 CCP-A / CCP-F Data

225 CCP-A
Wheel Diameter - 22.5”
Wheel Type - Airfoil
Tip Speed (FPM) = 5.89 x RPM
Max. BHP = 1.46 x (RPM/1000)^3
Inlet Area - 3.02 Sq. Ft.
Outlet Area - 3.31 Sq. Ft.
Outlet Velocity (FPM) = CFM/3.31

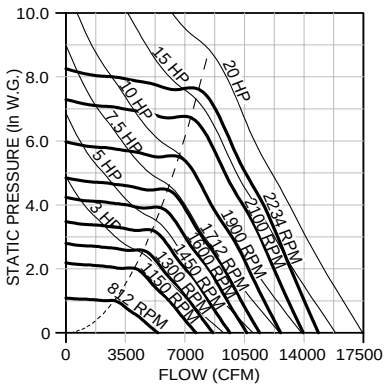
Class I Max. RPM - 1712
Class II Max. RPM - 2234

225 CCP-F
Wheel Diameter - 22.5”
Wheel Type - Flat Blade
Tip Speed (FPM) = 5.89x RPM
Max. BHP = 1.76 x (RPM/1000)^3
Inlet Area - 3.02 Sq. Ft.
Outlet Area - 3.31 Sq. Ft.
Outlet Velocity (FPM) = CFM/3.31

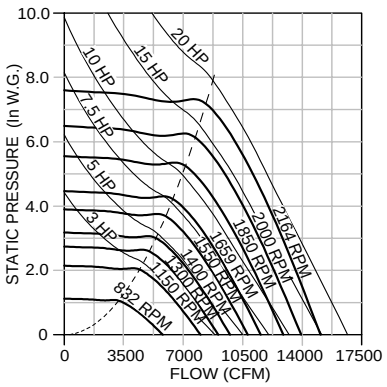
Class I Max. RPM - 1659
Class II Max. RPM - 2164



225 CCP-A



225 CCP-F



225 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2900	875	812	.77																		
3500	1056	862	.93	924	1.15																
4100	1237	929	1.17	984	1.39	1037	1.63	1091	1.89	1148	2.18										
4700	1418	996	1.44	1052	1.7	1102	1.95	1148	2.21	1194	2.49	1290	3.12								
5300	1599	1060	1.73	1119	2.04	1170	2.34	1215	2.61	1258	2.9	1339	3.51	1423	4.2						
5900	1780	1127	2.06	1182	2.4	1235	2.75	1283	3.08	1326	3.4	1403	4.03	1477	4.71	1628	6.26				
6500	1961	1201	2.45	1249	2.81	1299	3.19	1348	3.57	1393	3.94	1472	4.65	1541	5.34	1674	6.85	1816	8.65		
7100	2143	1278	2.91	1322	3.29	1366	3.68	1411	4.08	1457	4.51	1539	5.32	1610	6.08	1735	7.62	1857	9.35	1989	11.4
7700	2324	1357	3.42	1398	3.83	1438	4.24	1479	4.67	1521	5.11	1603	6.01	1677	6.88	1802	8.53	1915	10.3	2028	12.2
8300	2505	1438	4.01	1476	4.44	1514	4.88	1551	5.32	1589	5.78	1667	6.74	1742	7.71	1870	9.53	1979	11.3	2084	13.2
8900	2686	1519	4.65	1556	5.12	1592	5.59	1627	6.06	1661	6.53	1733	7.54	1806	8.58	1938	10.6	2047	12.5	2147	14.4
9500	2867	1602	5.38	1637	5.88	1672	6.39	1705	6.89	1737	7.38	1803	8.42	1870	9.49	2003	11.7	2116	13.8	2214	15.8
10100	3048	1684	6.17	1719	6.72	1752	7.26	1784	7.79	1815	8.32	1876	9.38	1938	10.5	2066	12.9	2183	15.2		
10700	3229	1768	7.06	1802	7.65	1833	8.21	1864	8.78	1894	9.34	1952	10.5	2010	11.6	2130	14.1				
11300	3410	1850	8	1883	8.63	1916	9.27	1945	9.85	1974	10.5	2030	11.6	2085	12.8	2197	15.3				
11900	3591	1935	9.07	1968	9.75	1998	10.4	2027	11	2055	11.7	2109	12.9	2162	14.2						
12500	3773	2020	10.2	2051	10.9	2080	11.6	2110	12.3	2136	13	2189	14.3								
13100	3954	2105	11.5	2134	12.2	2164	13	2191	13.6	2219	14.4										
13700	4135	2189	12.8	2220	13.6																

225 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3500	1056	832	1.01																		
4100	1237	882	1.21	945	1.48	1006	1.77														
4700	1418	940	1.46	997	1.74	1053	2.05	1106	2.37	1159	2.71										
5300	1599	1003	1.77	1056	2.07	1107	2.38	1156	2.72	1205	3.08	1299	3.81								
5900	1780	1070	2.13	1119	2.46	1166	2.78	1212	3.13	1257	3.49	1345	4.28	1430	5.1						
6500	1961	1140	2.55	1186	2.91	1230	3.26	1273	3.62	1315	4	1397	4.8	1476	5.65	1630	7.49				
7100	2143	1211	3.03	1254	3.41	1296	3.79	1337	4.19	1377	4.58	1454	5.4	1528	6.28	1672	8.19	1813	10.3		
7700	2324	1285	3.57	1326	3.99	1365	4.4	1404	4.82	1441	5.24	1514	6.09	1585	7	1721	8.97	1852	11.1	1981	13.3
8300	2505	1360	4.19	1398	4.62	1436	5.08	1472	5.52	1508	5.97	1578	6.89	1645	7.82	1774	9.82	1898	12	2019	14.3
8900	2686	1437	4.89	1473	5.35	1508	5.82	1543	6.3	1577	6.78	1644	7.76	1708	8.74	1831	10.8	1949	13	2064	15.4
9500	2867	1515	5.67	1549	6.16	1582	6.66	1615	7.16	1648	7.68	1711	8.7	1773	9.75	1891	11.9	2004	14.2	2114	16.6
10100	3048	1593	6.53	1625	7.05	1658	7.59	1689	8.12	1720	8.66	1781	9.75	1840	10.9	1953	13.1	2062	15.4		
10700	3229	1672	7.49	1704	8.06	1734	8.61	1764	9.17	1793	9.73	1852	10.9	1909	12.1	2018	14.4	2122	16.8		
11300	3410	1753	8.58	1782	9.14	1811	9.73	1841	10.3	1868	10.9	1924	12.1	1979	13.3	2084	15.8				
11900	3591	1832	9.72	1861	10.3	1890	11	1916	11.6	1945	12.2	1997	13.5	2050	14.7	2151	17.3				
12500	3773	1913	11	1942	11.7	1967	12.3	1995	13	2021	13.6	2072	14.9	2123	16.3						
13100	3954	1996	12.4	2021	13.1	2047	13.7	2073	14.4	2098	15.1	2148	16.5								
13700	4135	2078	14	2100	14.6	2128	15.4	2150	16												
14300	4316	2159	15.6																		

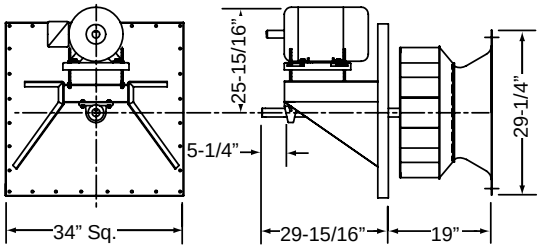
Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 15” from fan centerline.

245 CCP-A
Wheel Diameter - 24.5”
Wheel Type - Airfoil
Tip Speed (FPM) = 6.41 x RPM
Max. BHP = 2.22 x (RPM/1000)^3
Inlet Area - 3.64 Sq. Ft.
Outlet Area - 3.93 Sq. Ft.
Outlet Velocity (FPM) = CFM/3.93

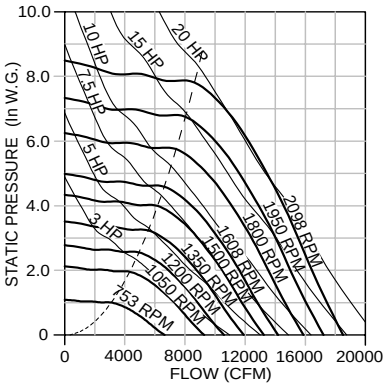
Class I Max. RPM - 1608
Class II Max. RPM - 2098

245 CCP-F
Wheel Diameter - 24.5”
Wheel Type - Flat Blade
Tip Speed (FPM) = 6.41 x RPM
Max. BHP = 2.70 x (RPM/1000)^3
Inlet Area - 3.64 Sq. Ft.
Outlet Area - 3.93 Sq. Ft.
Outlet Velocity (FPM) = CFM/3.93

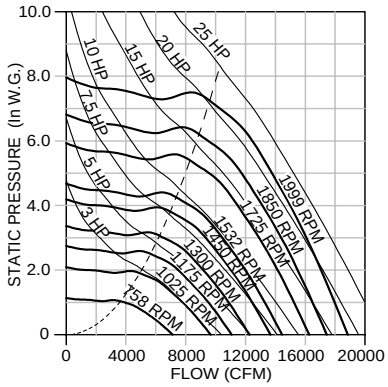
Class I Max. RPM - 1532
Class II Max. RPM - 1999



245 CCP-A



245 CCP-F



245 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3200	814	753	.86																		
3950	1005	788	1.05	857	1.31	924	1.59														
4700	1196	835	1.29	897	1.57	957	1.87	1015	2.18	1071	2.51										
5450	1387	892	1.58	948	1.89	1002	2.21	1055	2.55	1107	2.9	1206	3.63	1302	4.4						
6200	1578	953	1.88	1006	2.26	1055	2.61	1104	2.97	1151	3.34	1243	4.12	1332	4.95						
6950	1768	1018	2.22	1067	2.64	1114	3.06	1159	3.46	1203	3.86	1288	4.68	1371	5.56	1528	7.4				
7700	1959	1087	2.62	1132	3.06	1177	3.54	1219	3.99	1260	4.44	1340	5.33	1416	6.23	1565	8.19	1705	10.2	1841	12.4
8450	2150	1160	3.11	1201	3.56	1242	4.04	1282	4.55	1321	5.06	1397	6.05	1469	7.03	1608	9.06	1741	11.2	1868	13.5
9200	2341	1235	3.69	1272	4.13	1310	4.62	1348	5.16	1385	5.71	1457	6.82	1526	7.89	1656	10	1783	12.3	1905	14.7
9950	2532	1310	4.33	1347	4.82	1382	5.31	1416	5.84	1451	6.41	1520	7.62	1586	8.81	1710	11.1	1829	13.4	1946	15.9
10700	2723	1387	5.06	1422	5.58	1455	6.09	1488	6.64	1520	7.21	1585	8.46	1648	9.75	1768	12.3	1881	14.7	1991	17.3
11450	2914	1465	5.89	1498	6.43	1530	6.98	1561	7.54	1592	8.13	1652	9.37	1712	10.7	1828	13.5	1937	16.1	2041	18.8
12200	3105	1543	6.79	1575	7.38	1606	7.97	1636	8.56	1665	9.16	1722	10.4	1778	11.8	1890	14.8	1995	17.6	2095	20.4
12950	3296	1622	7.8	1653	8.44	1683	9.06	1712	9.69	1740	10.3	1793	11.6	1847	13	1953	16	2056	19.2		
13700	3486	1700	8.88	1732	9.6	1761	10.3	1789	10.9	1816	11.6	1867	12.9	1918	14.3	2019	17.4				
14450	3677	1780	10.1	1810	10.8	1838	11.6	1865	12.3	1892	13	1942	14.3	1991	15.8	2087	18.9				
15200	3868	1859	11.4	1888	12.2	1917	13	1944	13.7	1969	14.5	2018	15.9	2065	17.4						
15950	4059	1939	12.8	1969	13.7	1996	14.5	2021	15.3	2047	16.1	2094	17.6								
16700	4250	2020	14.4	2048	15.3	2074	16.1														

245 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3950	1005	758	1.14																		
4700	1196	792	1.34	858	1.68	922	2.04														
5450	1387	841	1.61	897	1.95	954	2.33	1011	2.73	1066	3.15										
6200	1578	897	1.93	948	2.3	997	2.68	1047	3.1	1097	3.53	1196	4.47	1286	5.43						
6950	1768	955	2.31	1004	2.71	1050	3.12	1094	3.54	1138	3.99	1227	4.95	1316	5.99						
7700	1959	1016	2.76	1062	3.18	1106	3.62	1149	4.08	1189	4.54	1268	5.52	1349	6.59	1507	8.9				
8450	2150	1080	3.28	1123	3.73	1165	4.2	1205	4.68	1244	5.17	1318	6.19	1390	7.27	1537	9.65	1679	12.2		
9200	2341	1146	3.87	1186	4.35	1225	4.85	1264	5.36	1301	5.88	1373	6.96	1440	8.08	1573	10.5	1709	13.2	1837	16
9950	2532	1214	4.55	1251	5.06	1288	5.58	1325	6.13	1360	6.67	1429	7.81	1494	8.98	1617	11.4	1741	14.2	1866	17.1
10700	2723	1284	5.32	1319	5.86	1353	6.41	1387	6.98	1421	7.56	1487	8.75	1550	9.98	1668	12.5	1781	15.3	1898	18.3
11450	2914	1355	6.19	1387	6.75	1420	7.34	1452	7.94	1484	8.55	1547	9.8	1608	11.1	1722	13.8	1829	16.6	1936	19.6
12200	3105	1427	7.17	1457	7.75	1488	8.37	1519	9	1549	9.64	1609	11	1667	12.3	1779	15.1	1881	18	1981	21.1
12950	3296	1499	8.24	1529	8.88	1557	9.5	1587	10.2	1615	10.8	1672	12.2	1728	13.6	1836	16.5	1937	19.6		
13700	3486	1573	9.46	1601	10.1	1628	10.8	1656	11.5	1683	12.2	1737	13.6	1790	15	1894	18.1	1993	21.2		
14450	3677	1646	10.8	1674	11.5	1700	12.2	1726	12.9	1752	13.6	1803	15.1	1854	16.6	1954	19.8				
15200	3868	1722	12.3	1747	13	1772	13.7	1797	14.4	1822	15.2	1871	16.7	1920	18.3						
15950	4059	1796	13.8	1820	14.6	1845	15.4	1869	16.1	1892	16.9	1940	18.5	1986	20.1						
16700	4250	1870	15.5	1895	16.4	1919	17.2	1941	18	1965	18.8										
17450	4441	1947	17.5	1970	18.3	1991	19.1														

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 16” from fan centerline.

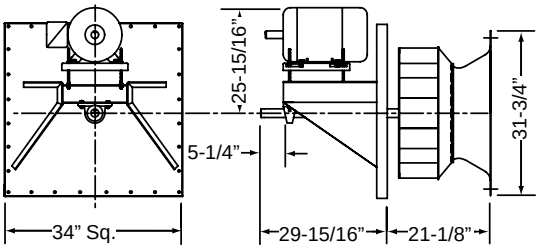
270 CCP-A / CCP-F Data

270 CCP-A
Wheel Diameter - 27”
Wheel Type - Airfoil
Tip Speed (FPM) = 7.07 x RPM
Max. BHP = 3.61 x (RPM/1000)^3
Inlet Area - 4.35 Sq. Ft.
Outlet Area - 4.77 Sq. Ft.
Outlet Velocity (FPM) = CFM/4.77

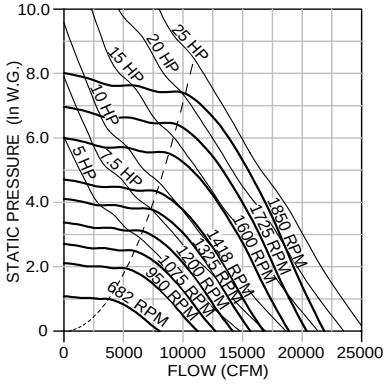
Class I Max. RPM - 1418
Class II Max. RPM - 1850

270 CCP-F
Wheel Diameter - 27”
Wheel Type - Flat Blade
Tip Speed (FPM) = 7.07 x RPM
Max. BHP = 4.39 x (RPM/1000)^3
Inlet Area - 4.35 Sq. Ft.
Outlet Area - 4.77 Sq. Ft.
Outlet Velocity (FPM) = CFM/4.77

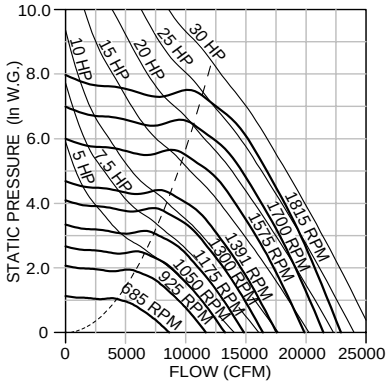
Class I Max. RPM - 1391
Class II Max. RPM - 1815



270 CCP-A



270 CCP-F



270 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3800	796	682	1.03																		
4700	985	711	1.25	774	1.56	836	1.9														
5600	1173	752	1.52	809	1.87	865	2.23	918	2.61	969	2.99										
6500	1362	802	1.86	854	2.24	904	2.63	952	3.03	1000	3.46	1091	4.34								
7400	1551	857	2.24	905	2.67	950	3.09	995	3.53	1038	3.97	1123	4.92	1204	5.91						
8300	1739	915	2.64	960	3.14	1003	3.63	1044	4.11	1084	4.59	1162	5.58	1238	6.63	1382	8.84				
9200	1928	976	3.1	1017	3.63	1058	4.19	1097	4.74	1135	5.28	1207	6.33	1278	7.43	1414	9.78	1543	12.3		
10100	2116	1041	3.67	1078	4.2	1116	4.79	1153	5.4	1189	6.01	1258	7.19	1324	8.35	1452	10.8	1574	13.4	1690	16.1
11000	2305	1107	4.33	1142	4.88	1177	5.48	1212	6.12	1246	6.79	1312	8.11	1374	9.37	1494	11.9	1610	14.7	1722	17.5
11900	2494	1175	5.09	1208	5.66	1241	6.28	1272	6.91	1304	7.6	1367	9.04	1428	10.5	1542	13.2	1651	16	1757	19
12800	2682	1244	5.95	1276	6.57	1306	7.19	1336	7.84	1366	8.54	1425	10	1483	11.6	1592	14.6	1696	17.5	1797	20.6
13700	2871	1314	6.92	1344	7.57	1373	8.23	1402	8.91	1430	9.61	1485	11.1	1540	12.8	1646	16	1745	19.2	1842	22.4
14600	3060	1383	7.97	1413	8.69	1441	9.39	1468	10.1	1495	10.8	1547	12.3	1599	14	1701	17.5	1798	21		
15500	3248	1454	9.16	1483	9.93	1510	10.7	1536	11.4	1562	12.2	1611	13.7	1660	15.4	1758	19.1				
16400	3437	1524	10.4	1552	11.3	1579	12.1	1605	12.9	1629	13.6	1677	15.2	1723	16.9	1816	20.7				
17300	3626	1596	11.9	1623	12.7	1649	13.6	1674	14.4	1697	15.2	1744	16.9	1788	18.6						
18200	3814	1667	13.4	1693	14.3	1719	15.3	1744	16.2	1767	17	1811	18.8								
19100	4003	1738	15	1765	16.1	1790	17.1	1813	18	1836	18.9										
20000	4191	1811	16.9	1836	17.9																

270 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4700	985	685	1.36																		
5600	1173	714	1.6	776	2.01	834	2.44														
6500	1362	757	1.91	808	2.32	861	2.78	914	3.27	964	3.77										
7400	1551	806	2.28	853	2.73	898	3.19	944	3.69	991	4.22	1081	5.34								
8300	1739	858	2.73	903	3.21	945	3.7	986	4.22	1026	4.75	1109	5.92	1190	7.17						
9200	1928	913	3.26	955	3.77	995	4.29	1034	4.84	1071	5.4	1144	6.58	1218	7.86	1363	10.7				
10100	2116	969	3.85	1009	4.41	1047	4.97	1084	5.54	1120	6.14	1187	7.35	1254	8.67	1390	11.6	1518	14.7		
11000	2305	1028	4.55	1065	5.13	1101	5.73	1136	6.34	1171	6.98	1236	8.27	1297	9.6	1420	12.5	1545	15.8	1661	19.2
11900	2494	1089	5.35	1123	5.96	1157	6.59	1191	7.25	1223	7.9	1286	9.26	1346	10.7	1458	13.6	1574	17	1688	20.5
12800	2682	1151	6.24	1183	6.89	1215	7.56	1247	8.26	1278	8.95	1338	10.4	1396	11.9	1503	14.9	1608	18.3	1716	21.9
13700	2871	1214	7.25	1245	7.95	1275	8.66	1304	9.36	1334	10.1	1391	11.6	1447	13.1	1551	16.4	1650	19.8	1748	23.4
14600	3060	1279	8.41	1307	9.11	1335	9.85	1364	10.6	1391	11.4	1446	12.9	1500	14.6	1602	17.9	1696	21.4	1787	25.1
15500	3248	1344	9.67	1371	10.4	1397	11.2	1424	12	1451	12.8	1502	14.4	1554	16.1	1653	19.6	1744	23.2		
16400	3437	1410	11.1	1435	11.9	1461	12.7	1486	13.5	1511	14.3	1561	16.1	1610	17.8	1705	21.5	1795	25.2		
17300	3626	1475	12.6	1500	13.5	1525	14.3	1549	15.2	1572	16	1620	17.8	1667	19.6	1758	23.4				
18200	3814	1543	14.4	1566	15.2	1589	16.1	1612	17	1635	17.9	1680	19.7	1725	21.6	1813	25.5				
19100	4003	1610	16.2	1632	17.1	1654	18	1677	19	1698	19.9	1741	21.8	1784	23.8						
20000	4191	1676	18.2	1699	19.2	1720	20.1	1741	21.1	1762	22.1	1803	24								
20900	4380	1745	20.5	1766	21.5	1786	22.4	1807	23.5												

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 17-3/8” from fan centerline.

300 CCP-A

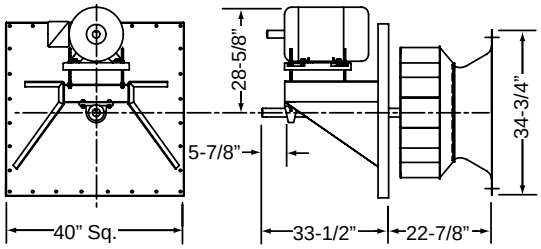
Wheel Diameter - 30”
Wheel Type - Airfoil
Tip Speed (FPM) = 7.85 x RPM
Max. BHP = 6.11 x (RPM/1000)^3
Inlet Area - 5.355 Sq. Ft.
Outlet Area - 5.89 Sq. Ft.
Outlet Velocity (FPM) = CFM/5.89

Class I Max. RPM - 1276
Class II Max. RPM - 1665

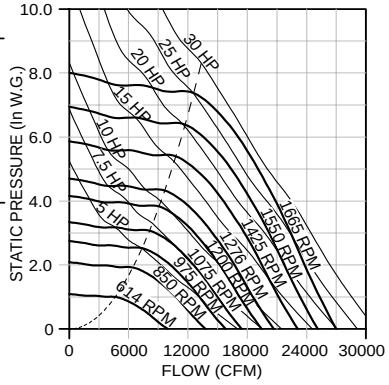
300 CCP-F

Wheel Diameter - 30”
Wheel Type - Flat Blade
Tip Speed (FPM) = 7.85 x RPM
Max. BHP = 7.44 x (RPM/1000)^3
Inlet Area - 5.355 Sq. Ft.
Outlet Area - 5.89 Sq. Ft.
Outlet Velocity (FPM) = CFM/5.89

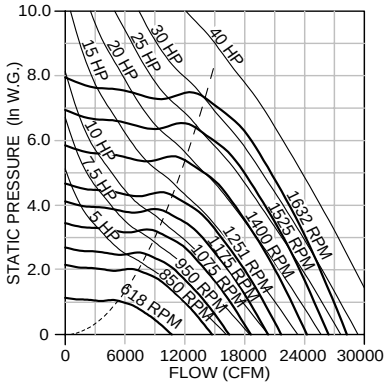
Class I Max. RPM - 1251
Class II Max. RPM - 1632



300 CCP-A



300 CCP-F



300 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4700	797	614	1.27																		
5900	1001	643	1.57	700	1.96	754	2.37														
7100	1205	684	1.95	735	2.38	784	2.83	831	3.3	876	3.78										
8300	1409	734	2.41	779	2.88	823	3.37	866	3.88	908	4.42	988	5.51	1066	6.69						
9500	1612	788	2.91	830	3.48	870	4.02	909	4.57	947	5.13	1022	6.33	1093	7.57	1229	10.2				
10700	1816	846	3.48	885	4.12	923	4.77	959	5.39	994	6	1062	7.25	1128	8.56	1255	11.4	1375	14.4		
11900	2020	907	4.16	942	4.81	977	5.52	1012	6.25	1045	6.95	1109	8.33	1170	9.71	1289	12.7	1402	15.8	1510	19.1
13100	2224	970	4.97	1003	5.64	1035	6.37	1068	7.17	1099	7.96	1159	9.49	1217	11	1328	14.1	1435	17.4	1537	20.9
14300	2427	1036	5.94	1067	6.65	1096	7.37	1126	8.18	1155	9.01	1213	10.8	1268	12.4	1372	15.7	1473	19.2	1570	22.8
15500	2631	1103	7.05	1132	7.8	1159	8.54	1187	9.36	1214	10.2	1268	12	1321	13.9	1421	17.5	1516	21.1	1608	24.9
16700	2835	1170	8.29	1198	9.1	1224	9.89	1250	10.7	1276	11.6	1326	13.4	1376	15.5	1472	19.4	1563	23.3	1650	27.2
17900	3039	1238	9.69	1265	10.6	1290	11.4	1315	12.3	1339	13.2	1386	15	1434	17.1	1526	21.5	1613	25.6		
19100	3242	1307	11.3	1333	12.2	1357	13.1	1381	14	1404	15	1449	16.9	1493	18.9	1581	23.5	1665	28.1		
20300	3446	1375	13	1400	14	1424	15	1447	15.9	1470	17	1512	18.9	1554	21	1637	25.6				
21500	3650	1444	14.9	1469	16	1492	17	1514	18.1	1536	19.1	1577	21.2	1617	23.3						
22700	3853	1513	16.9	1537	18.1	1561	19.3	1582	20.4	1603	21.5	1643	23.7								
23900	4057	1583	19.2	1607	20.5	1629	21.7	1650	22.9												
25100	4261	1653	21.7																		

300 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5900	1001	618	1.7																		
7100	1205	648	2.02	702	2.53	755	3.08	803	3.63												
8300	1409	692	2.46	737	2.98	783	3.55	829	4.16	874	4.79										
9500	1612	741	2.99	782	3.55	822	4.14	861	4.75	901	5.4	981	6.82	1055	8.29						
10700	1816	792	3.62	832	4.24	869	4.86	905	5.51	939	6.17	1010	7.62	1081	9.18	1213	12.5				
11900	2020	846	4.37	883	5.02	919	5.7	953	6.39	985	7.09	1048	8.57	1111	10.2	1239	13.7				
13100	2224	902	5.23	937	5.94	970	6.65	1003	7.4	1034	8.15	1093	9.7	1150	11.3	1266	14.9	1381	18.9		
14300	2427	961	6.24	992	6.97	1024	7.76	1054	8.53	1084	9.33	1142	11	1195	12.7	1300	16.3	1407	20.4	1511	24.7
15500	2631	1021	7.4	1050	8.18	1079	8.99	1108	9.82	1137	10.7	1192	12.4	1244	14.2	1342	18	1439	22.1	1538	26.6
16700	2835	1082	8.71	1109	9.53	1137	10.4	1164	11.3	1191	12.2	1243	14	1294	15.9	1388	19.8	1477	24	1568	28.5
17900	3039	1145	10.2	1170	11.1	1196	12	1221	12.9	1246	13.8	1296	15.8	1345	17.8	1436	21.9	1522	26.2	1605	30.8
19100	3242	1207	11.9	1232	12.8	1256	13.8	1280	14.7	1304	15.7	1351	17.7	1397	19.8	1486	24.1	1569	28.6		
20300	3446	1272	13.8	1295	14.8	1317	15.7	1340	16.7	1363	17.8	1407	19.9	1451	22.1	1537	26.6	1618	31.3		
21500	3650	1335	15.8	1358	16.9	1380	17.9	1401	19	1423	20.1	1465	22.3	1507	24.5	1589	29.2				
22700	3853	1401	18.2	1422	19.2	1442	20.3	1463	21.4	1483	22.5	1524	24.9	1564	27.2						
23900	4057	1466	20.7	1485	21.8	1506	23	1526	24.2	1544	25.3	1583	27.7	1622	30.2						
25100	4261	1531	23.4	1551	24.7	1570	25.9	1588	27	1608	28.3										
26300	4465	1598	26.6	1617	27.8																

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 18-15/16” from fan centerline.

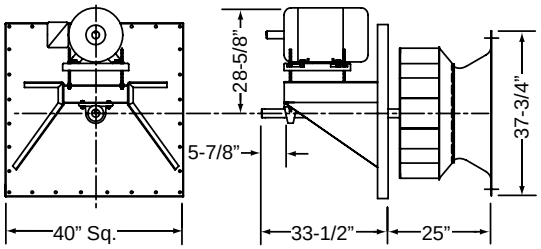
330 CCP-A/CCP-F Data

330 CCP-A
Wheel Diameter - 33”
Wheel Type - Airfoil
Tip Speed (FPM) = 8.64 x RPM
Max. BHP = 9.84 x (RPM/1000)^3
Inlet Area - 6.49 Sq. Ft.
Outlet Area - 7.13 Sq. Ft.
Outlet Velocity (FPM) = CFM/7.13

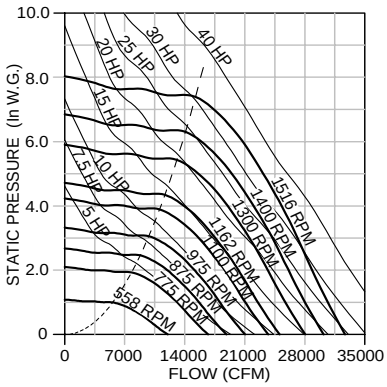
Class I Max. RPM - 1162
Class II Max. RPM - 1516

330 CCP-F
Wheel Diameter - 33”
Wheel Type - Flat Blade
Tip Speed (FPM) = 8.64 x RPM
Max. BHP = 12.0 x (RPM/1000)^3
Inlet Area - 6.49 Sq. Ft.
Outlet Area - 7.13 Sq. Ft.
Outlet Velocity (FPM) = CFM/7.13

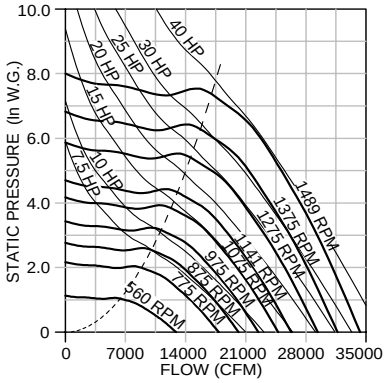
Class I Max. RPM - 1141
Class II Max. RPM - 1489



330 CCP-A



330 CCP-F



330 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5700	799	558	1.53																		
7000	982	582	1.87	634	2.33	684	2.83														
8300	1164	614	2.26	661	2.77	706	3.3	750	3.87	793	4.46										
9600	1346	653	2.74	695	3.29	737	3.87	777	4.48	816	5.1	891	6.4								
10900	1529	696	3.27	735	3.9	773	4.53	810	5.18	846	5.84	916	7.24	983	8.71						
12200	1711	741	3.83	779	4.59	814	5.3	848	6	881	6.69	946	8.17	1009	9.73	1128	13				
13500	1894	790	4.5	824	5.29	858	6.12	890	6.91	921	7.68	981	9.23	1040	10.9	1152	14.3	1259	18		
14800	2076	840	5.28	872	6.09	903	6.96	934	7.86	964	8.75	1021	10.5	1075	12.2	1181	15.8	1282	19.6	1379	23.7
16100	2259	892	6.2	922	7.03	951	7.92	979	8.85	1008	9.84	1062	11.7	1114	13.6	1214	17.4	1310	21.4	1403	25.7
17400	2441	946	7.27	973	8.1	1000	9	1027	9.97	1054	11	1106	13.1	1156	15.2	1251	19.2	1342	23.4	1430	27.8
18700	2623	1000	8.46	1026	9.35	1052	10.3	1077	11.3	1102	12.3	1151	14.5	1199	16.8	1290	21.1	1377	25.5	1461	30
20000	2806	1055	9.8	1080	10.8	1105	11.7	1128	12.7	1151	13.7	1198	16	1244	18.4	1332	23.2	1415	27.8	1495	32.5
21300	2988	1110	11.3	1135	12.3	1158	13.3	1181	14.4	1203	15.4	1247	17.7	1290	20.2	1375	25.3	1455	30.3		
22600	3171	1166	12.9	1190	14	1212	15.1	1234	16.2	1255	17.3	1297	19.6	1338	22.1	1419	27.5	1497	32.9		
23900	3353	1221	14.7	1245	15.9	1267	17.1	1288	18.2	1308	19.3	1348	21.7	1387	24.2	1465	29.8				
25200	3535	1278	16.7	1301	18	1322	19.2	1343	20.4	1363	21.6	1401	24.1	1438	26.6	1512	32.2				
26500	3718	1334	18.8	1356	20.1	1377	21.5	1397	22.8	1417	24.1	1454	26.6	1490	29.2						
27800	3900	1390	21.1	1412	22.5	1433	24	1453	25.4	1471	26.7	1508	29.4								
29100	4083	1447	23.6	1469	25.2	1489	26.7	1508	28.1												

330 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	982	560	2.02																		
8300	1164	583	2.36	634	2.98	681	3.61														
9600	1346	616	2.8	659	3.42	703	4.11	746	4.82	787	5.57										
10900	1529	655	3.34	694	4	731	4.68	770	5.44	808	6.21	883	7.9								
12200	1711	696	3.98	733	4.68	768	5.42	801	6.16	835	6.97	904	8.71	971	10.6						
13500	1894	739	4.72	774	5.47	807	6.24	839	7.05	869	7.86	930	9.62	993	11.6	1112	15.7				
14800	2076	783	5.55	816	6.36	848	7.2	879	8.06	908	8.92	964	10.7	1019	12.7	1133	17	1238	21.5		
16100	2259	829	6.52	860	7.38	890	8.26	920	9.18	948	10.1	1001	12	1052	14	1156	18.3	1260	23.2	1354	28.1
17400	2441	877	7.63	906	8.55	934	9.47	962	10.4	989	11.4	1041	13.4	1090	15.5	1184	19.9	1281	24.8	1376	30.1
18700	2623	926	8.89	953	9.85	979	10.8	1006	11.8	1032	12.9	1082	15	1129	17.1	1218	21.7	1307	26.6	1397	32.1
20000	2806	976	10.3	1001	11.3	1026	12.3	1051	13.4	1076	14.5	1124	16.7	1170	19	1256	23.7	1338	28.7	1422	34.2
21300	2988	1027	11.9	1050	12.9	1074	14	1097	15.1	1121	16.3	1167	18.6	1211	20.9	1295	25.9	1373	31	1450	36.5
22600	3171	1077	13.6	1100	14.7	1123	15.9	1145	17	1167	18.2	1211	20.6	1253	23.1	1335	28.2	1411	33.6	1484	39.2
23900	3353	1130	15.6	1151	16.7	1172	17.9	1193	19.1	1214	20.3	1256	22.9	1297	25.4	1376	30.8	1451	36.4		
25200	3535	1181	17.7	1202	18.9	1222	20.1	1242	21.4	1262	22.7	1302	25.3	1341	28	1418	33.5				
26500	3718	1234	20.1	1254	21.3	1274	22.7	1292	23.9	1312	25.3	1350	28	1387	30.7	1461	36.5				
27800	3900	1287	22.6	1306	24	1324	25.3	1343	26.7	1361	28	1398	30.9	1433	33.7						
29100	4083	1340	25.4	1358	26.8	1377	28.2	1394	29.6	1411	31	1446	33.9	1481	36.9						
30400	4265	1393	28.4	1412	30	1429	31.4	1445	32.8	1463	34.3										

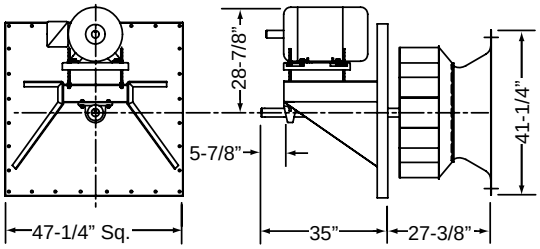
Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 20-7/16” from fan centerline.

365 CCP-A
Wheel Diameter - 36.5”
Wheel Type - Airfoil
Tip Speed (FPM) = 9.56 x RPM
Max. BHP = 16.7 x (RPM/1000)^3
Inlet Area - 7.98 Sq. Ft.
Outlet Area - 8.72 Sq. Ft.
Outlet Velocity (FPM) = CFM/8.72

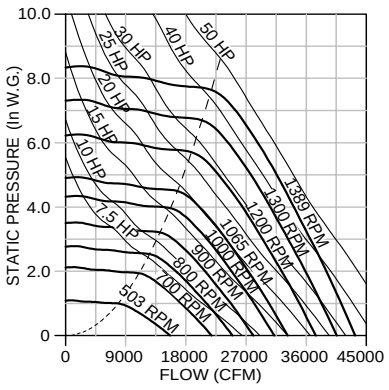
Class I Max. RPM - 1065
Class II Max. RPM - 1389

365 CCP-F
Wheel Diameter - 36.5”
Wheel Type - Flat Blade
Tip Speed (FPM) = 9.56 x RPM
Max. BHP = 18.9 x (RPM/1000)^3
Inlet Area - 7.98 Sq. Ft.
Outlet Area - 8.72 Sq. Ft.
Outlet Velocity (FPM) = CFM/8.72

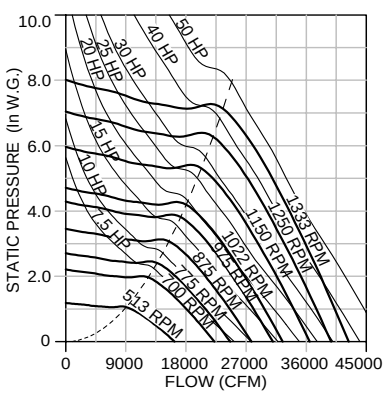
Class I Max. RPM - 1022
Class II Max. RPM - 1333



365 CCP-A



365 CCP-F



365 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	917	503	2																		
9800	1123	528	2.44	571	3.02	616	3.67														
11600	1330	564	3	603	3.66	640	4.33	676	5.01	714	5.78										
13400	1536	604	3.66	640	4.38	674	5.12	707	5.89	739	6.66	802	8.29								
15200	1743	647	4.46	680	5.22	712	6.03	743	6.87	773	7.72	830	9.46	885	11.3						
17000	1949	693	5.4	724	6.25	753	7.08	782	7.97	810	8.89	864	10.8	915	12.7	1015	16.8				
18800	2155	739	6.43	769	7.39	797	8.32	824	9.26	850	10.2	901	12.2	950	14.3	1042	18.7	1133	23.3		
20600	2362	787	7.59	815	8.66	843	9.74	868	10.7	893	11.8	941	13.9	987	16.1	1075	20.7	1158	25.5	1241	30.6
22400	2568	836	8.9	863	10.1	889	11.3	914	12.4	938	13.5	983	15.7	1027	18	1111	23	1190	28	1266	33.3
24200	2775	886	10.4	911	11.6	936	12.9	960	14.2	983	15.4	1027	17.8	1069	20.2	1149	25.4	1225	30.8	1297	36.2
26000	2981	937	12	961	13.4	985	14.8	1008	16.1	1030	17.5	1072	20.1	1113	22.7	1189	28	1262	33.6	1332	39.5
27800	3188	988	13.9	1011	15.3	1034	16.8	1056	18.2	1078	19.7	1119	22.6	1158	25.4	1231	30.9	1301	36.8	1368	42.9
29600	3394	1040	16	1062	17.4	1084	19	1105	20.6	1126	22.1	1166	25.3	1204	28.3	1274	34.1	1342	40.2		
31400	3600	1094	18.4	1114	19.9	1134	21.4	1155	23.1	1175	24.8	1213	28.1	1250	31.3	1319	37.6	1384	43.9		
33200	3807	1147	20.9	1166	22.5	1186	24.2	1205	25.8	1224	27.6	1261	31.1	1297	34.6	1364	41.3				
35000	4013	1201	23.8	1220	25.5	1238	27.2	1256	28.9	1274	30.6	1310	34.3	1345	38.1						
36800	4220	1255	27	1273	28.7	1290	30.4	1308	32.2	1325	34	1360	37.9								
38600	4426	1309	30.3	1327	32.2	1344	34	1360	35.8	1377	37.8										
40400	4633	1364	34.1	1381	36																

365 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9800	1123	513	2.52																		
11600	1330	547	3.1	585	3.78	622	4.45														
13400	1536	586	3.81	620	4.52	654	5.3	687	6.09	718	6.84										
15200	1743	628	4.69	660	5.44	691	6.25	721	7.11	750	7.98	807	9.76								
17000	1949	673	5.72	703	6.57	731	7.4	759	8.28	786	9.2	839	11.2	889	13.1						
18800	2155	719	6.87	747	7.84	774	8.77	800	9.7	825	10.6	874	12.7	922	14.8	1014	19.2				
20600	2362	767	8.19	793	9.25	819	10.3	843	11.3	867	12.3	913	14.4	958	16.7	1044	21.4	1127	26.2		
22400	2568	815	9.64	840	10.8	865	12	888	13.2	911	14.3	955	16.5	997	18.8	1078	23.7	1156	29	1232	34.2
24200	2775	864	11.3	888	12.6	912	13.9	934	15.1	956	16.4	998	18.8	1038	21.2	1115	26.3	1189	31.8	1261	37.5
26000	2981	915	13.2	937	14.5	959	15.9	981	17.3	1002	18.7	1042	21.3	1081	23.9	1154	29.1	1224	34.8	1293	40.9
27800	3188	966	15.4	987	16.7	1008	18.2	1029	19.7	1049	21.2	1088	24.1	1125	26.9	1195	32.3	1262	38.1	1327	44.3
29600	3394	1018	17.8	1038	19.2	1058	20.7	1077	22.3	1097	23.9	1134	27	1170	30.1	1238	35.9	1302	41.8		
31400	3600	1070	20.4	1090	22	1109	23.6	1127	25.2	1145	26.8	1181	30.1	1216	33.5	1282	39.8				
33200	3807	1124	23.5	1142	25.1	1159	26.6	1177	28.4	1194	30	1229	33.5	1262	37	1326	43.9				
35000	4013	1176	26.7	1193	28.3	1211	30.1	1228	31.9	1244	33.6	1277	37.2	1310	41						
36800	4220	1229	30.2	1247	32.1	1263	33.9	1279	35.6	1295	37.5	1327	41.3								
38600	4426	1284	34.3	1300	36.1	1315	37.9	1331	39.8												

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 22-11/16” from fan centerline.

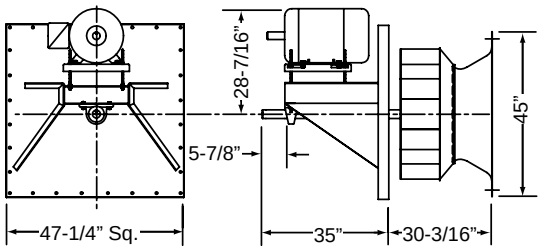
402 CCP-A/CCP-F Data

402 CCP-A
Wheel Diameter - 40.25”
Wheel Type - Airfoil
Tip Speed (FPM) = 10.54 x RPM
Max. BHP = 27.3 x $(RPM/1000)^3$
Inlet Area - 9.72 Sq. Ft.
Outlet Area - 10.6 Sq. Ft.
Outlet Velocity (FPM) = CFM/10.6

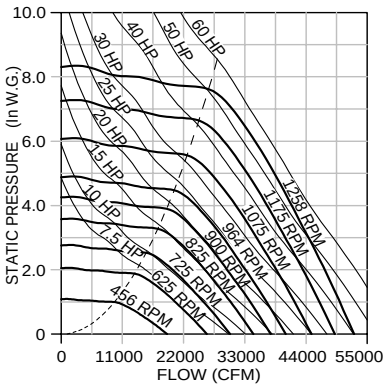
Class I Max. RPM - 964
Class II Max. RPM - 1258

402 CCP-F
Wheel Diameter - 40.25”
Wheel Type - Flat Blade
Tip Speed (FPM) = 10.54 x RPM
Max. BHP = 30.8 x $(RPM/1000)^3$
Inlet Area - 9.72 Sq. Ft.
Outlet Area - 10.6 Sq. Ft.
Outlet Velocity (FPM) = CFM/10.6

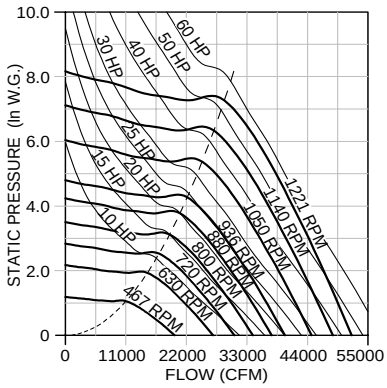
Class I Max. RPM - 936
Class II Max. RPM - 1221



402 CCP-A



402 CCP-F



402 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9700	914	456	2.42																		
12000	1131	480	2.99	519	3.7	559	4.48														
14300	1348	515	3.72	550	4.53	583	5.34	616	6.2	649	7.1										
16600	1565	553	4.57	585	5.45	616	6.37	646	7.32	674	8.26	731	10.3								
18900	1782	595	5.63	624	6.56	653	7.56	681	8.61	707	9.63	758	11.8	808	14						
21200	1999	638	6.84	666	7.9	693	8.97	718	10	743	11.2	792	13.5	838	16	926	21				
23500	2216	683	8.21	710	9.43	735	10.6	759	11.8	782	12.9	828	15.4	872	18.1	954	23.4	1034	29.1		
25800	2433	729	9.75	754	11.1	779	12.5	802	13.7	824	15	867	17.6	908	20.4	986	26.1	1060	32	1133	38.3
28100	2650	776	11.5	800	13	823	14.4	845	15.9	867	17.3	907	20.1	947	23	1021	29	1092	35.4	1159	41.8
30400	2867	824	13.5	847	15.1	869	16.7	890	18.3	911	19.9	950	22.9	987	25.9	1058	32.2	1126	38.9	1191	45.9
32700	3084	872	15.7	894	17.4	915	19.1	936	20.9	956	22.6	994	26	1029	29.1	1097	35.7	1162	42.7	1225	50.1
35000	3300	922	18.2	942	20	962	21.8	982	23.7	1001	25.5	1038	29.2	1073	32.8	1138	39.7	1200	46.9		
37300	3517	972	21.1	992	23	1010	24.8	1029	26.8	1047	28.7	1083	32.7	1117	36.6	1180	44	1240	51.5		
39600	3734	1023	24.3	1041	26.2	1059	28.1	1077	30.2	1094	32.2	1128	36.4	1162	40.7	1223	48.6				
41900	3951	1074	27.8	1092	29.9	1109	31.9	1125	33.9	1142	36.1	1175	40.5	1207	45						
44200	4168	1126	31.8	1142	33.8	1158	35.9	1175	38.2	1190	40.3	1222	44.9	1253	49.7						
46500	4385	1178	36.1	1193	38.2	1209	40.4	1224	42.6	1239	44.9										
48800	4602	1230	40.8	1245	43																

402 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	1131	467	3.1																		
14300	1348	499	3.84	533	4.66	567	5.51														
16600	1565	537	4.78	568	5.65	598	6.6	627	7.56	656	8.54										
18900	1782	578	5.95	606	6.86	633	7.82	660	8.87	686	9.96	737	12.2								
21200	1999	621	7.3	647	8.34	673	9.4	697	10.4	721	11.6	768	14	814	16.5						
23500	2216	665	8.81	690	10	714	11.2	737	12.3	760	13.5	803	16	846	18.7	927	24.1				
25800	2433	710	10.5	734	11.9	757	13.2	779	14.5	800	15.8	841	18.3	881	21.1	957	27	1031	33		
28100	2650	757	12.5	779	14	801	15.5	822	16.9	842	18.3	881	21.1	918	23.9	991	30	1060	36.6	1127	43
30400	2867	804	14.7	825	16.3	846	17.9	866	19.5	886	21.2	923	24.2	958	27.1	1027	33.4	1093	40.3	1156	47.3
32700	3084	853	17.3	872	18.9	892	20.7	911	22.4	930	24.2	966	27.6	1000	30.8	1065	37.2	1127	44.2	1188	51.7
35000	3300	902	20.2	921	22	939	23.8	957	25.6	975	27.5	1009	31.1	1042	34.7	1105	41.6	1164	48.6		
37300	3517	951	23.4	969	25.3	987	27.2	1004	29.1	1021	31.1	1054	35	1086	39	1146	46.4	1203	53.7		
39600	3734	1002	27.2	1019	29.1	1035	31	1051	33	1067	35	1099	39.2	1130	43.4	1188	51.5				
41900	3951	1052	31.2	1068	33.2	1084	35.3	1100	37.4	1115	39.5	1145	43.8	1175	48.3						
44200	4168	1102	35.5	1119	37.9	1134	40	1148	42.1	1163	44.3	1192	48.9	1220	53.5						
46500	4385	1154	40.6	1169	42.8	1183	45	1198	47.4	1211	49.5										
48800	4602	1206	46.1	1219	48.2																

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 24-5/8” from fan centerline.

445 CCP-A

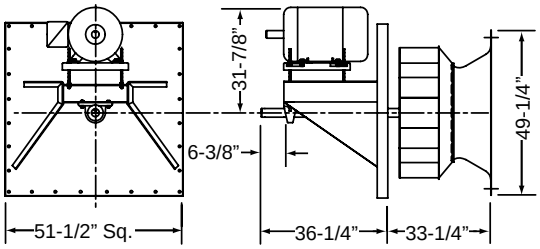
Wheel Diameter - 44.5”
Wheel Type - Airfoil
Tip Speed (FPM) = 11.65 x RPM
Max. BHP = 45.0 x (RPM/1000)^3
Inlet Area - 11.86 Sq. Ft.
Outlet Area - 12.96 Sq. Ft.
Outlet Velocity (FPM) = CFM/12.96

Class I Max. RPM - 873
Class II Max. RPM - 1139

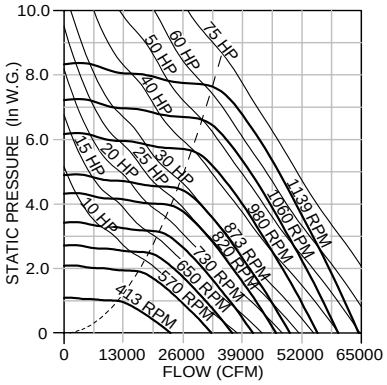
445 CCP-F

Wheel Diameter - 44.5”
Wheel Type - Flat Blade
Tip Speed (FPM) = 11.65 x RPM
Max. BHP = 50.9 x (RPM/1000)^3
Inlet Area - 11.86 Sq. Ft.
Outlet Area - 12.96 Sq. Ft.
Outlet Velocity (FPM) = CFM/12.96

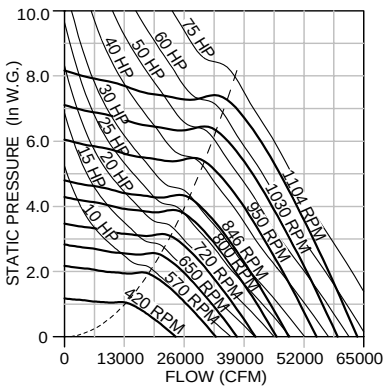
Class I Max. RPM - 846
Class II Max. RPM - 1104



445 CCP-A



445 CCP-F



445 CCP-A

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11900	918	413	2.98																		
14400	1111	432	3.6	467	4.44																
16900	1303	459	4.36	491	5.31	522	6.3	552	7.31	584	8.44										
19400	1496	489	5.24	519	6.3	547	7.37	574	8.46	601	9.61	655	12								
21900	1689	521	6.29	549	7.41	576	8.6	602	9.83	626	11	674	13.6	721	16.2						
24400	1882	556	7.55	582	8.76	607	10	631	11.3	654	12.6	699	15.4	742	18.2	828	24.3				
26900	2075	591	8.92	616	10.3	640	11.6	662	13	684	14.4	727	17.3	768	20.4	845	26.6	924	33.5		
29400	2268	628	10.5	651	12	674	13.5	695	14.9	716	16.4	757	19.5	796	22.7	869	29.4	940	36.4	1012	44
31900	2461	665	12.2	688	13.9	709	15.5	730	17.1	750	18.7	788	21.9	825	25.3	896	32.4	962	39.7	1027	47.3
34400	2654	702	14.1	724	15.9	745	17.7	765	19.5	784	21.2	821	24.6	857	28.2	924	35.6	988	43.3	1049	51.3
36900	2847	741	16.2	762	18.2	782	20.1	801	22	820	24	855	27.6	889	31.3	954	39	1016	47.3	1074	55.6
39400	3039	780	18.6	800	20.7	819	22.7	838	24.9	856	26.9	890	30.9	923	34.8	985	42.8	1044	51.3	1101	60.1
41900	3232	820	21.3	838	23.4	857	25.6	875	27.8	892	30	926	34.4	958	38.7	1017	46.9	1074	55.7	1129	64.9
44400	3425	860	24.3	877	26.4	895	28.7	912	31	929	33.4	962	38.1	993	42.7	1051	51.5	1106	60.6		
46900	3618	901	27.6	918	29.9	934	32.2	951	34.7	967	37.1	999	42.2	1029	47	1085	56.4	1138	65.7		
49400	3811	941	31.1	957	33.5	974	36	989	38.5	1005	41.1	1035	46.3	1065	51.6	1120	61.6				
51900	4004	983	35.2	999	37.7	1014	40.2	1028	42.6	1043	45.3	1073	50.9	1101	56.3						
54400	4197	1025	39.6	1039	42	1053	44.5	1068	47.3	1082	50	1111	55.7	1139	61.6						
56900	4390	1066	44.2	1080	46.8	1095	49.7	1108	52.3	1122	55.1										
59400	4582	1108	49.3	1122	52.1	1135	54.8														

445 CCP-F

CFM	OV	1.000 SP		1.250 SP		1.500 SP		1.750 SP		2.000 SP		2.500 SP		3.000 SP		4.000 SP		5.000 SP		6.000 SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
14400	1111	420	3.71																		
16900	1303	445	4.5	477	5.5	508	6.48														
19400	1496	474	5.43	503	6.5	531	7.62	558	8.74	585	9.88										
21900	1689	506	6.61	533	7.72	558	8.87	584	10.2	608	11.4	656	14								
24400	1882	540	7.99	565	9.2	589	10.4	612	11.7	635	13.1	679	15.9	722	18.7						
26900	2075	575	9.53	599	10.9	621	12.2	643	13.6	664	14.9	705	17.9	746	21.1						
29400	2268	611	11.2	633	12.8	655	14.3	675	15.7	695	17.1	734	20.2	772	23.5	845	30.4				
31900	2461	648	13.2	669	14.8	690	16.5	709	18.1	728	19.7	765	22.8	801	26.2	869	33.4	935	40.8		
34400	2654	685	15.3	705	17.1	725	19	744	20.7	762	22.5	797	25.8	831	29.3	896	36.7	959	44.8	1020	52.8
36900	2847	724	17.8	743	19.7	761	21.6	779	23.5	797	25.5	831	29.2	863	32.8	925	40.4	985	48.8	1043	57.4
39400	3039	762	20.5	780	22.5	798	24.6	815	26.6	833	28.8	865	32.8	896	36.6	956	44.5	1013	53.1	1068	62.1
41900	3232	802	23.6	819	25.7	836	27.9	852	30	869	32.3	900	36.6	930	40.8	988	49.2	1042	57.7	1095	67
44400	3425	842	27	858	29.2	874	31.4	890	33.8	905	36	936	40.8	965	45.4	1021	54.3	1073	63		
46900	3618	881	30.7	897	33	913	35.4	928	37.8	943	40.3	972	45.2	1000	50.1	1054	59.6				
49400	3811	922	34.9	937	37.3	951	39.6	966	42.2	981	44.8	1009	50	1036	55.1	1089	65.4				
51900	4004	963	39.5	977	41.9	991	44.5	1005	47	1019	49.7	1046	55.1	1072	60.5						
54400	4197	1003	44.3	1018	47.1	1031	49.6	1044	52.3	1058	55.1	1084	60.7								
56900	4390	1045	49.8	1058	52.5	1071	55.2	1084	58	1096	60.7										
59400	4582	1087	55.8	1099	58.5																

Performance shown is for installation type A: free inlet, free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. Air performance is based on floor or wall 26-3/4” from fan centerline.

120 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1600	1.000	84	71	83	78	76	71	67	59	81
2000	1.000	87	84	86	85	81	77	73	66	87
	1.250	88	84	86	85	81	77	73	66	87
	1.500	88	82	85	86	82	78	73	66	87
2400	1.000	89	91	90	91	86	82	78	73	92
	1.250	89	92	90	91	86	82	78	73	92
	1.500	90	92	89	91	86	82	78	73	92
	1.750	91	92	89	91	86	82	78	73	92
	2.000	91	91	88	92	86	83	78	73	92
2800	1.000	92	97	92	96	90	87	83	78	97
	1.250	92	97	92	96	90	87	83	78	97
	1.500	92	97	93	96	90	87	83	78	97
	1.750	92	98	92	96	90	87	82	78	97
	2.000	93	98	92	96	90	87	82	78	97
	2.500	94	99	91	97	90	87	82	78	97
	3.000	94	98	89	97	91	87	82	78	97
3200	1.000	94	102	94	100	94	90	87	83	100
	1.250	94	102	94	100	94	90	87	83	100
	1.500	94	102	95	100	94	90	87	83	100
	1.750	94	102	95	100	94	90	86	82	100
	2.000	94	102	95	100	94	90	86	82	100
	2.500	95	103	95	100	94	90	86	82	100
	3.000	96	104	94	100	94	90	86	82	100
	4.000	96	104	90	101	94	91	86	82	101
3600	1.250	96	104	99	102	98	94	90	86	103
	1.500	96	104	99	102	98	94	90	86	103
	1.750	96	104	99	102	98	94	90	86	103
	2.000	96	104	99	102	98	94	90	86	103
	2.500	96	104	100	102	98	94	89	85	103
	3.000	97	105	99	102	98	94	89	85	103
	4.000	98	106	99	102	98	94	89	85	103
	5.000	98	106	96	102	98	94	90	85	103
4000	1.750	98	106	103	104	101	97	93	89	106
	2.000	98	106	103	104	101	97	93	89	106
	2.500	98	106	103	104	101	97	93	89	106
	3.000	98	106	104	104	101	97	92	88	106
	4.000	99	107	104	104	101	97	92	88	106
	5.000	100	108	103	104	101	97	92	88	106
	6.000	100	108	101	103	102	97	93	88	106
4400	2.000	100	108	107	105	104	99	96	92	108
	2.500	100	108	107	105	104	99	95	92	108
	3.000	100	108	107	106	104	99	95	91	109
	4.000	100	108	107	106	104	99	95	91	109
	5.000	101	109	108	106	104	99	95	91	109
	6.000	102	110	107	105	105	99	95	91	109
4800	2.500	101	109	110	107	107	102	98	94	111
	3.000	101	109	110	107	107	102	98	94	111
	4.000	101	109	111	107	107	102	98	94	111
	5.000	102	110	111	107	107	102	98	93	111
	6.000	102	111	111	107	107	102	98	93	111

135 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1600	1.000	88	79	86	82	79	75	71	63	84
	1.250	88	76	87	82	80	75	71	63	85
2000	1.000	90	89	90	89	85	81	77	70	90
	1.250	91	89	90	89	85	81	77	70	90
	1.500	92	89	90	89	85	81	77	70	90
	1.750	92	87	90	89	85	81	77	70	91
2400	1.000	94	96	94	95	90	86	82	77	96
	1.250	94	96	94	95	90	86	82	76	96
	1.500	94	96	94	95	90	86	82	76	96
	1.750	94	96	94	95	90	86	82	76	96
	2.000	95	96	93	95	90	86	82	76	96
	2.500	96	96	92	96	90	86	82	76	96
2800	1.000	96	101	96	100	94	91	87	82	100
	1.250	96	102	96	100	94	90	87	82	100
	1.500	96	102	96	100	94	90	87	82	100
	1.750	96	102	97	100	94	90	86	81	100
	2.000	96	102	97	100	94	90	86	81	100
	2.500	97	103	96	100	94	90	86	81	100
	3.000	98	103	96	100	94	90	86	81	100
3200	1.250	99	107	98	104	98	94	91	87	104
	1.500	99	107	99	104	98	94	91	86	104
	1.750	99	107	99	104	98	94	90	86	104
	2.000	99	107	99	104	98	94	90	86	104
	2.500	99	107	99	104	98	94	90	86	104
	3.000	99	107	99	104	98	94	90	86	104
	4.000	101	109	98	104	98	94	90	86	104
	5.000	101	109	95	105	98	95	90	86	104
3600	1.750	101	109	103	106	102	97	94	90	107
	2.000	101	109	103	106	102	97	94	90	107
	2.500	101	109	103	106	102	97	93	89	107
	3.000	101	109	104	106	102	97	93	89	107
	4.000	102	110	104	106	102	97	93	89	107
	5.000	103	111	103	106	102	97	93	89	107
	6.000	103	111	101	106	102	98	93	89	107
4000	2.000	102	110	107	108	105	100	97	93	110
	2.500	102	110	107	108	105	100	97	93	110
	3.000	102	110	108	108	105	100	96	92	110
	4.000	102	110	108	108	105	100	96	92	110
	5.000	103	112	108	108	105	100	96	92	110
	6.000	104	112	108	108	105	100	96	92	110
4400	2.500	104	112	111	109	108	103	99	95	112
	3.000	104	112	111	109	108	103	99	95	112
	4.000	104	112	111	110	108	103	99	95	112
	5.000	104	112	111	110	108	103	99	94	112
	6.000	105	113	112	109	108	103	99	94	112

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

150 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1300	1.000	83	77	85	80	77	72	67	59	82
1700	1.000	92	86	91	87	84	80	75	68	89
	1.250	93	86	91	87	84	80	75	68	89
	1.500	94	84	91	87	84	80	75	68	89
	1.750	94	82	91	87	84	80	75	68	90
2100	1.000	95	94	95	94	89	86	82	76	95
	1.250	95	95	95	94	89	86	81	75	95
	1.500	96	95	95	94	89	85	81	75	95
	1.750	96	95	95	94	89	85	81	75	95
	2.000	97	95	95	94	89	85	81	75	95
	2.500	97	93	94	95	90	86	81	75	95
2500	1.000	98	101	98	100	94	91	87	82	100
	1.250	98	101	98	100	94	91	87	82	100
	1.500	98	101	98	100	94	91	87	81	100
	1.750	98	101	98	100	94	90	86	81	100
	2.000	98	101	98	100	94	90	86	81	100
	2.500	100	102	98	100	94	90	86	81	100
	3.000	100	102	97	100	94	90	86	81	100
2900	1.500	101	107	100	105	98	95	91	87	105
	1.750	101	107	101	105	98	95	91	86	105
	2.000	101	107	101	105	98	95	91	86	105
	2.500	101	107	101	105	98	95	90	86	105
	3.000	102	107	101	105	98	95	90	86	105
	4.000	103	108	100	105	98	95	90	86	105
	5.000	103	108	97	106	98	95	90	86	105
3300	1.750	103	111	103	108	102	98	95	91	108
	2.000	103	111	103	108	102	98	95	91	108
	2.500	103	111	104	108	102	98	94	90	108
	3.000	103	111	104	108	102	98	94	90	108
	4.000	104	112	104	108	102	98	94	90	108
	5.000	105	113	103	108	102	98	94	90	108
	6.000	105	113	101	108	102	99	94	90	108

165 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1200	1.000	83	80	85	81	77	73	67	59	83
1600	1.000	94	88	93	88	85	81	77	69	91
	1.250	95	87	93	88	85	81	77	69	91
	1.500	96	86	93	88	85	81	77	69	91
	1.750	96	84	94	88	86	81	77	69	91
2000	1.000	98	96	97	96	91	87	84	77	97
	1.250	98	96	97	96	91	87	83	77	97
	1.500	98	96	97	96	91	87	83	76	97
	1.750	99	96	97	96	91	87	83	76	97
	2.000	99	96	97	96	91	87	83	76	97
	2.500	100	95	97	96	91	87	83	76	97
2400	1.250	101	103	100	102	96	92	89	83	102
	1.500	101	103	100	102	96	92	88	83	102
	1.750	101	103	101	102	96	92	88	83	102
	2.000	101	103	101	102	96	92	88	82	102
	2.500	102	103	101	102	96	92	88	82	102
	3.000	103	104	100	102	96	92	88	82	102
	4.000	103	103	99	102	96	93	88	82	102
2800	1.500	104	109	103	107	100	97	93	88	107
	1.750	104	109	103	107	100	97	93	88	107
	2.000	104	109	103	107	100	97	93	88	107
	2.500	104	109	104	107	100	97	92	88	107
	3.000	104	109	104	107	100	96	92	87	107
	4.000	105	110	103	107	100	96	92	87	107
	5.000	106	110	102	107	100	97	92	87	107
3200	2.000	106	114	105	110	104	100	97	93	110
	3.000	106	114	106	110	104	100	96	92	110
	4.000	106	114	106	110	104	100	96	92	110
	6.000	108	116	105	110	104	100	96	92	111

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

180 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1100	1.000	82	80	80	78	75	73	69	61	81
1500	1.000	94	88	90	87	85	81	79	71	90
	1.250	94	88	89	87	85	81	79	71	90
	1.500	94	89	89	86	84	81	79	71	89
	1.750	94	88	89	86	84	81	79	71	89
	2.000	93	88	89	85	84	80	79	71	89
1900	1.000	98	97	96	94	92	88	86	79	97
	1.250	98	97	96	94	92	88	86	79	97
	1.500	99	97	95	94	91	88	85	79	97
	1.750	99	97	95	94	91	87	85	79	96
	2.000	99	97	95	93	91	87	85	79	96
	2.500	98	97	95	93	90	87	85	79	96
	3.000	98	96	95	92	90	87	85	79	95
2300	1.250	101	103	101	100	97	94	91	86	102
	1.500	101	103	100	100	97	94	90	86	102
	1.750	102	104	100	99	97	94	90	86	102
	2.000	102	104	100	99	96	93	90	86	102
	2.500	103	104	100	99	96	93	90	85	101
	3.000	102	104	100	99	96	93	90	85	101
	4.000	102	104	100	98	95	92	89	85	101
2700	1.750	103	109	104	104	101	99	95	91	107
	2.000	104	109	104	104	101	98	94	91	106
	2.500	104	110	104	104	101	98	94	91	106
	3.000	105	110	104	104	100	98	94	91	106
	4.000	105	110	104	103	100	97	94	91	106
	5.000	105	110	104	103	99	97	93	91	105
	6.000	104	109	104	103	98	96	93	91	105

195 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1000	1.000	81	81	80	78	75	73	68	60	81
1250	1.000	90	87	87	85	82	79	76	67	87
	1.250	90	87	87	84	82	79	75	67	87
	1.500	90	86	86	83	81	79	75	67	87
1500	1.000	97	91	93	90	88	84	82	73	93
	1.250	98	91	92	90	87	83	82	74	93
	1.500	97	91	92	89	87	83	82	73	92
	1.750	97	91	92	89	87	83	82	73	92
	2.000	97	91	92	88	86	83	82	73	92
1750	1.000	99	97	96	95	92	88	86	79	97
	1.250	100	97	96	94	92	88	86	79	97
	1.500	101	97	96	94	92	88	86	79	97
	1.750	101	97	96	94	91	88	86	79	97
	2.000	101	97	96	94	91	87	86	79	96
	2.500	100	97	96	93	91	87	86	78	96
	3.000	100	96	96	92	90	87	85	79	96
2000	1.250	102	101	100	98	96	92	90	83	101
	1.500	102	101	100	98	96	92	89	83	101
	1.750	103	102	99	98	95	92	89	83	101
	2.000	103	102	99	98	95	92	89	83	100
	2.500	103	102	99	97	95	91	89	83	100
	3.000	103	102	99	97	94	91	89	83	100
	4.000	102	101	99	96	93	90	89	83	99
2250	1.500	103	105	103	102	99	96	92	87	104
	1.750	104	106	103	102	99	96	92	87	104
	2.000	104	106	102	101	98	95	92	87	104
	2.500	105	106	102	101	98	95	92	87	104
	3.000	105	106	102	101	98	95	92	87	103
	4.000	104	106	102	100	97	94	92	87	103
	5.000	104	106	102	100	96	94	91	87	102
2500	1.750	105	109	105	105	102	99	95	91	107
	2.000	105	109	105	105	101	99	95	91	107
	2.500	106	110	105	104	101	98	95	91	107
	3.000	107	110	105	104	101	98	94	91	106
	4.000	107	110	105	104	100	97	94	91	106
	5.000	106	110	105	103	100	97	94	90	106
	6.000	106	109	104	103	99	97	94	91	105

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

210 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1100	1.000	88	86	86	84	81	78	73	65	86
	1.250	88	86	85	83	80	78	73	65	86
1300	1.000	95	90	91	89	86	82	79	71	91
	1.250	95	90	91	88	85	82	79	71	91
	1.500	94	90	90	88	85	82	79	71	91
	1.750	94	90	90	87	85	82	79	71	90
	2.000	94	90	90	86	84	82	79	71	90
1500	1.000	99	94	95	93	91	86	84	76	95
	1.250	100	94	95	92	90	86	84	76	95
	1.500	100	94	95	92	90	86	84	76	95
	1.750	100	94	95	92	89	86	84	76	95
	2.000	100	94	95	91	89	86	84	76	94
	2.500	99	94	94	90	89	85	84	76	94
1700	1.000	101	98	98	96	94	90	88	80	99
	1.250	102	98	98	96	94	90	88	80	99
	1.500	103	98	98	96	93	89	88	80	99
	1.750	103	98	98	96	93	89	87	80	98
	2.000	103	98	98	95	93	89	87	80	98
	2.500	103	98	97	95	92	89	87	80	98
	3.000	102	98	97	94	92	89	87	80	97
1900	1.250	103	102	101	99	97	93	91	84	102
	1.500	104	102	101	99	97	93	90	84	102
	1.750	104	102	101	99	96	93	90	84	102
	2.000	105	102	101	99	96	92	90	84	101
	2.500	105	102	100	98	96	92	90	84	101
	3.000	105	102	100	98	95	92	90	84	101
	4.000	104	102	100	97	94	91	90	84	100
2100	1.500	105	106	103	102	99	96	93	87	105
	1.750	105	106	103	102	99	96	93	87	105
	2.000	106	106	103	102	99	96	93	87	104
	2.500	107	106	103	102	99	95	92	87	104
	3.000	107	106	103	101	98	95	92	87	104
	4.000	106	106	103	101	98	95	92	87	103
	5.000	106	106	103	100	97	94	92	87	103
2300	1.750	107	109	106	105	102	99	95	90	107
	2.000	107	109	106	105	102	98	95	90	107
	2.500	108	109	105	104	101	98	95	90	107
	3.000	108	110	105	104	101	98	95	90	107
	4.000	108	110	105	104	100	97	94	90	106
	5.000	108	109	105	103	100	97	94	90	106
	6.000	107	109	105	103	99	97	94	90	105

225 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
900	1.000	83	83	81	80	77	75	69	61	83
1100	1.000	91	89	88	86	83	80	76	67	89
	1.250	91	89	88	85	83	80	75	67	88
	1.500	90	88	87	85	82	80	76	67	88
1300	1.000	97	93	93	91	88	85	81	73	94
	1.250	97	93	93	91	88	84	81	73	93
	1.500	97	93	93	90	88	84	81	73	93
	1.750	97	93	93	90	87	84	81	73	93
	2.000	97	93	93	89	87	84	81	73	92
1500	1.000	101	97	98	95	93	89	86	78	98
	1.250	102	96	97	95	92	88	86	78	98
	1.500	103	96	97	94	92	88	86	78	97
	1.750	103	96	97	94	92	88	86	78	97
	2.000	103	96	97	94	92	88	86	78	97
	2.500	102	97	97	93	91	88	86	78	96
	3.000	102	96	97	92	91	87	86	78	96
1700	1.250	104	101	101	98	96	92	90	82	101
	1.500	105	101	100	98	96	92	90	82	101
	1.750	105	101	100	98	96	91	90	82	101
	2.000	106	101	100	98	95	91	90	82	100
	2.500	106	101	100	97	95	91	89	82	100
	3.000	105	101	100	97	94	91	89	82	100
	4.000	105	100	100	96	94	90	89	82	99
1900	1.500	106	105	103	101	99	95	93	86	104
	1.750	106	105	103	101	99	95	93	86	104
	2.000	107	105	103	101	99	95	92	86	104
	2.500	108	105	103	101	98	94	92	86	103
	3.000	108	105	103	100	98	94	92	86	103
	4.000	107	105	103	100	97	94	92	86	103
	5.000	107	104	102	99	96	93	92	86	102
2100	1.750	108	108	106	104	102	98	95	89	107
	2.000	108	108	106	104	101	98	95	89	107
	2.500	109	108	105	104	101	98	95	89	106
	3.000	109	109	105	104	101	97	95	89	106
	4.000	109	109	105	103	100	97	94	89	106
	5.000	109	108	105	103	99	97	94	89	105
	6.000	108	108	105	102	99	96	94	89	105

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

245 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1000	1.000	84	88	87	84	80	75	68	62	86
	1.250	84	87	86	83	79	74	68	62	85
	1.500	82	86	85	82	78	74	69	63	84
1200	1.000	87	93	94	90	86	81	75	68	92
	1.250	87	93	93	89	86	81	74	68	91
	1.500	87	92	92	89	85	80	74	67	90
	1.750	87	92	91	88	85	80	73	67	90
	2.000	86	91	90	87	84	79	74	68	89
1400	1.000	90	97	99	94	91	86	80	73	96
	1.250	90	96	99	94	90	86	80	72	96
	1.500	90	96	98	94	90	86	79	72	96
	1.750	90	96	97	93	90	85	79	72	95
	2.000	90	96	96	93	89	85	79	72	95
	2.500	89	95	95	92	89	84	78	72	94
	3.000	88	94	94	91	87	83	79	74	93
1600	1.250	92	99	103	98	94	90	85	77	100
	1.500	92	99	102	97	94	90	84	76	100
	1.750	92	99	102	97	94	90	84	76	100
	2.000	92	99	101	97	94	90	84	76	99
	2.500	92	99	100	97	93	89	83	76	99
	3.000	92	99	99	96	93	89	83	75	98
1800	1.500	94	101	105	102	98	94	88	81	103
	1.750	94	101	105	101	97	94	88	80	103
	2.000	94	101	105	101	97	93	88	80	103
	2.500	94	101	104	101	97	93	87	80	103
	3.000	94	101	103	100	97	93	87	80	102
	4.000	94	101	101	99	96	92	86	79	101
	5.000	92	99	100	98	94	90	86	81	100
2000	1.750	96	103	108	105	100	97	92	84	106
	2.000	96	103	107	105	100	97	91	84	106
	2.500	96	103	107	104	100	96	91	84	106
	3.000	96	103	106	104	100	96	91	84	105
	4.000	96	103	105	103	99	95	90	83	105
	5.000	96	103	104	102	98	95	89	83	104
	6.000	94	102	103	101	97	93	89	84	103

270 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
800	1.000	83	84	83	80	76	70	64	58	81
1000	1.000	87	92	91	87	84	78	71	65	89
	1.250	87	91	90	87	83	78	71	65	88
	1.500	87	90	89	86	82	77	71	64	88
	1.750	86	89	88	85	82	77	72	65	87
1200	1.000	91	97	97	93	89	85	78	71	95
	1.250	91	96	97	92	89	84	77	71	95
	1.500	90	96	96	92	89	84	77	70	94
	1.750	90	96	95	92	88	83	77	70	94
	2.000	90	95	94	91	88	83	76	70	93
	2.500	89	94	93	90	87	82	77	71	92
1400	1.000	93	100	103	97	94	90	83	76	100
	1.250	93	100	102	97	94	89	83	76	99
	1.500	93	100	102	97	93	89	83	75	99
	1.750	93	100	101	97	93	89	82	75	99
	2.000	93	100	101	96	93	89	82	75	99
	2.500	93	99	99	96	92	88	82	75	98
	3.000	93	99	98	95	92	87	81	75	97
1600	1.500	96	103	106	101	97	93	88	80	103
	1.750	96	103	106	101	97	93	87	79	103
	2.000	96	102	105	100	97	93	87	79	103
	2.500	95	102	104	100	97	93	87	79	102
	3.000	95	102	103	100	96	92	86	79	102
	4.000	95	102	101	99	95	91	86	79	101
1800	1.750	98	105	109	105	101	97	91	84	107
	2.000	98	105	108	104	100	97	91	83	106
	2.500	98	105	108	104	100	96	91	83	106
	4.000	98	105	106	103	99	95	90	83	105
	6.000	96	103	104	101	97	93	89	84	103

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

300 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
700	1.000	83	84	82	79	75	70	64	57	81
850	1.000	88	91	89	86	82	76	69	63	88
	1.250	88	90	88	85	81	76	69	63	87
	1.500	88	89	87	84	80	75	70	63	86
1000	1.000	91	96	95	91	87	82	75	69	93
	1.250	91	96	94	91	87	81	74	68	92
	1.500	91	95	93	90	86	81	74	68	92
	1.750	91	94	93	90	86	81	74	68	91
	2.000	91	93	92	89	85	80	74	68	91
1150	1.000	94	100	100	95	91	87	80	73	97
	1.250	94	99	99	95	91	86	79	73	97
	1.500	94	99	99	95	91	86	79	73	97
	1.750	94	99	98	94	91	86	79	72	96
	2.000	94	98	97	94	90	85	79	72	96
	2.500	93	97	96	93	89	85	78	72	95
	3.000	92	96	95	92	88	84	79	73	94
1300	1.250	96	102	104	98	95	90	84	77	101
	1.500	96	102	103	98	95	90	84	77	100
	1.750	96	102	103	98	94	90	83	76	100
	2.000	96	102	102	98	94	90	83	76	100
	2.500	96	101	101	97	94	89	83	76	99
	3.000	96	101	100	97	93	89	82	75	99
1450	1.500	98	104	107	101	98	94	88	80	104
	1.750	98	104	107	101	98	94	87	80	104
	2.000	98	104	106	101	98	93	87	80	103
	2.500	98	104	105	101	97	93	87	79	103
	3.000	98	104	104	100	97	93	86	79	102
	4.000	97	104	102	99	96	92	86	79	101
1600	1.750	99	106	110	104	101	97	91	83	107
	2.000	99	106	109	104	101	97	91	83	106
	2.500	99	106	108	104	100	96	90	83	106
	3.000	99	106	108	103	100	96	90	82	106
	4.000	99	106	106	103	99	95	89	82	105
	5.000	99	106	105	102	98	94	89	82	104

330 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
600	1.000	82	83	80	77	73	68	63	56	79
750	1.000	89	91	88	85	81	75	68	63	87
	1.250	89	90	88	85	80	75	67	62	86
	1.500	88	89	87	84	80	75	69	63	85
900	1.000	93	97	94	91	87	82	74	69	93
	1.250	93	96	94	91	87	81	74	68	92
	1.500	93	95	93	90	86	81	74	68	92
	1.750	93	94	93	90	86	80	73	67	91
	2.000	92	94	92	89	85	80	74	68	91
1050	1.000	96	101	100	96	92	87	80	74	98
	1.250	96	101	99	95	92	86	79	73	97
	1.500	96	100	99	95	91	86	79	73	97
	1.750	96	100	98	95	91	86	79	73	97
	2.000	96	99	98	94	91	85	79	72	96
	2.500	95	98	97	94	90	85	78	72	95
	3.000	94	97	96	93	89	84	79	73	94
1200	1.250	98	104	104	99	96	91	84	78	101
	1.500	98	104	104	99	95	91	84	77	101
	1.750	98	103	103	99	95	90	84	77	101
	2.000	98	103	103	99	95	90	83	77	101
	2.500	98	103	102	98	94	90	83	76	100
	3.000	98	102	101	98	94	89	83	76	99
	4.000	96	101	99	96	92	88	83	78	98
1350	1.500	100	106	108	102	99	95	88	81	105
	1.750	100	106	108	102	99	94	88	81	105
	2.000	100	106	107	102	99	94	88	81	104
	2.500	100	106	106	102	98	94	87	80	104
	3.000	100	106	106	101	98	93	87	80	104
	4.000	100	105	104	101	97	93	86	79	103
	5.000	98	104	103	99	96	92	87	81	101
1500	1.750	102	108	112	105	102	98	92	84	108
	2.500	102	108	111	105	101	97	91	84	107
	4.000	102	108	108	104	101	96	90	83	106

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

365 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
550	1.000	81	80	77	75	70	64	59	54	76
700	1.000	87	90	86	85	81	74	67	62	86
	1.250	86	89	85	83	80	73	66	62	85
	1.500	87	88	84	82	78	72	66	61	84
850	1.000	92	95	92	91	89	83	74	69	93
	1.250	91	95	92	90	88	82	73	68	92
	1.500	90	94	91	89	87	81	72	68	91
	1.750	89	94	91	89	86	79	72	67	90
	2.000	90	93	90	88	85	78	72	67	90
	2.500	92	93	88	86	82	77	71	66	88
1000	1.000	95	99	97	95	94	89	80	74	98
	1.250	95	99	97	95	94	89	80	73	98
	1.500	95	99	97	95	93	88	79	73	97
	1.750	94	98	96	94	92	87	79	73	96
	2.000	93	98	96	94	91	86	78	72	96
	2.500	92	97	95	93	90	84	77	72	95
	3.000	93	97	94	91	88	83	77	71	93
1150	1.000	97	102	102	99	98	95	86	78	102
	1.250	97	102	102	99	98	94	86	78	102
	1.500	98	102	101	98	97	94	85	78	102
	1.750	98	102	101	98	97	93	85	77	101
	2.000	97	102	101	98	96	92	84	77	101
	2.500	96	101	100	97	95	91	83	76	100
	3.000	95	100	100	96	94	90	82	76	99
	4.000	96	100	99	95	92	87	81	75	97
1300	1.000	99	105	106	102	101	99	91	82	106
	1.250	99	105	106	102	101	99	91	82	106
	1.500	99	105	106	102	101	98	90	81	105
	1.750	100	105	105	101	100	98	90	81	105
	2.000	100	105	105	101	100	97	89	81	105
	2.500	99	105	105	101	99	96	88	80	104
	3.000	98	104	104	100	99	95	88	80	103
	4.000	97	103	104	99	97	93	86	79	102
	5.000	98	103	103	98	96	91	85	79	101

402 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
500	1.000	82	81	78	75	70	64	59	54	77
600	1.000	86	88	85	83	79	71	65	61	84
	1.250	86	87	84	82	77	70	64	60	83
	1.500	87	86	82	80	75	70	64	59	81
700	1.000	91	93	90	89	86	78	70	66	90
	1.250	90	93	89	88	84	77	69	65	89
	1.500	89	92	88	87	83	76	69	65	88
	1.750	90	92	87	86	81	75	69	64	87
	2.000	91	91	86	85	80	74	69	64	86
800	1.000	95	97	93	93	91	84	75	70	95
	1.250	94	97	93	92	90	83	74	70	94
	1.500	93	96	93	91	89	82	74	69	93
	1.750	92	96	92	91	88	81	73	69	92
	2.000	92	96	92	90	87	80	73	68	92
	2.500	93	95	90	88	85	79	73	68	90
900	1.000	97	100	97	96	95	89	79	74	99
	1.250	97	100	97	96	94	88	79	73	98
	1.500	96	100	97	95	93	87	78	73	97
	1.750	96	99	96	94	92	86	78	73	97
	2.000	95	99	96	94	92	85	77	72	96
	2.500	94	98	95	93	90	84	76	72	95
	3.000	95	98	94	92	88	83	76	71	94
1000	1.000	98	103	101	99	98	93	84	77	102
	1.250	99	103	101	98	97	92	83	77	101
	1.500	99	102	100	98	97	92	83	76	101
	1.750	98	102	100	98	96	91	82	76	100
	2.000	98	102	100	97	95	90	82	76	100
	2.500	97	101	99	96	94	89	81	75	99
	3.000	96	100	99	96	93	87	80	75	98
	4.000	98	100	97	94	90	85	79	74	96
1100	1.000	99	105	104	101	100	97	88	80	105
	1.250	100	105	104	101	100	96	87	80	104
	1.500	100	105	103	101	100	95	87	80	104
	1.750	100	105	103	100	99	95	86	79	103
	2.000	100	104	103	100	99	94	86	79	103
	2.500	99	104	102	99	98	93	85	78	102
	3.000	98	103	102	99	97	92	84	78	101
	4.000	98	102	101	97	95	90	83	77	100
	5.000	99	103	100	96	93	88	82	77	98
1200	1.000	101	106	107	103	103	100	91	83	107
	1.250	101	106	107	103	102	99	91	82	107
	1.500	101	106	106	103	102	99	90	82	106
	1.750	102	107	106	103	102	98	90	82	106
	2.000	102	107	106	102	101	98	90	82	106
	2.500	102	106	105	102	101	97	89	81	105
	3.000	101	106	105	101	100	96	88	81	104
	4.000	99	104	104	100	98	94	86	80	103
	5.000	100	104	103	99	97	92	85	79	102
	6.000	101	105	103	98	95	90	85	79	101

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

445 CCP-A

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
500	1.000	86	85	83	80	75	68	62	58	81
	1.250	86	84	81	78	73	67	62	57	79
600	1.000	91	92	89	87	83	76	69	64	88
	1.250	90	91	88	86	82	74	68	64	87
	1.500	90	91	87	85	80	73	67	63	86
	1.750	90	90	86	84	79	73	67	63	85
700	1.000	95	97	93	92	90	82	74	69	94
	1.250	95	97	93	92	89	81	73	69	93
	1.500	94	96	92	91	87	80	73	68	92
	1.750	93	96	92	90	86	79	72	68	91
	2.000	93	95	91	89	85	78	72	68	90
	2.500	94	95	89	87	83	77	72	67	89
800	1.000	98	101	97	96	95	88	78	74	99
	1.250	98	101	97	96	94	87	78	73	98
	1.500	98	100	96	95	93	86	77	73	97
	1.750	97	100	96	95	92	85	77	72	97
	2.000	96	99	96	94	91	85	76	72	96
	2.500	96	99	95	93	90	83	76	71	94
	3.000	97	98	93	92	88	82	76	71	93
900	1.000	100	104	101	99	99	93	83	77	102
	1.250	100	104	100	99	98	92	83	77	102
	1.500	101	103	100	99	97	91	82	76	101
	1.750	100	103	100	98	97	91	82	76	101
	2.000	100	103	100	98	96	90	81	76	100
	2.500	98	102	99	97	94	88	80	75	99
	3.000	97	101	99	96	93	87	79	75	98
	4.000	99	101	97	94	91	85	79	74	96
1000	1.000	101	106	104	102	101	97	87	80	105
	1.250	102	106	104	102	101	96	87	80	105
	1.500	102	106	104	101	100	95	86	80	104
	1.750	102	106	103	101	100	95	86	80	104
	2.000	102	106	103	101	99	94	86	79	104
	2.500	101	105	103	100	98	93	85	79	103
	3.000	100	104	102	100	97	92	84	78	102
	4.000	100	104	101	98	95	90	83	77	100
	5.000	101	104	100	97	93	88	82	77	99
1100	1.000	103	108	107	104	104	100	91	83	108
	1.250	103	108	107	104	103	100	91	83	108
	1.500	103	108	107	104	103	99	90	83	107
	1.750	104	108	107	104	103	99	90	83	107
	2.000	104	108	106	104	102	98	90	82	107
	2.500	104	108	106	103	102	97	89	82	106
	3.000	103	107	106	103	101	96	88	81	105
	4.000	102	106	105	102	99	94	87	81	104
	5.000	102	106	104	100	98	93	86	80	103
	6.000	103	106	103	99	96	91	85	80	102

120 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1600	1.000	75	75	76	75	74	72	71	61	79
2000	1.000	82	84	84	83	81	79	77	69	86
	1.250	81	83	83	82	80	78	76	69	86
	1.500	80	82	82	81	79	78	76	69	85
2400	1.000	87	91	89	89	86	84	82	76	92
	1.250	86	90	88	89	86	84	81	76	91
	1.500	85	89	88	88	85	83	81	76	91
	1.750	84	89	88	88	85	83	81	76	91
	2.000	83	88	87	87	84	83	81	76	90
2800	1.000	90	96	93	94	90	88	86	82	96
	1.250	90	96	93	94	90	88	86	82	96
	1.500	89	96	92	94	90	88	85	82	96
	1.750	89	95	92	94	90	87	85	82	96
	2.000	88	95	92	93	89	87	85	82	95
	2.500	87	93	91	92	89	87	85	81	94
	3.000	85	92	90	90	87	86	84	81	93
3200	1.250	92	100	96	97	94	91	90	86	100
	1.500	92	100	96	97	94	91	89	86	100
	1.750	92	100	96	97	94	91	89	86	99
	2.000	92	100	96	97	93	91	89	86	99
	2.500	91	99	95	96	93	91	88	86	99
	3.000	90	98	95	96	92	90	88	86	98
	4.000	87	96	94	93	91	89	87	86	97
3600	1.500	94	102	100	100	97	94	93	90	103
	1.750	94	102	100	100	97	94	92	89	103
	2.000	94	102	100	100	97	94	92	89	103
	2.500	94	102	100	100	97	94	92	89	102
	3.000	93	101	99	99	96	94	91	89	102
	4.000	91	99	99	98	96	93	91	89	101
	5.000	90	98	98	97	94	92	90	89	100
4000	1.750	96	104	104	103	100	97	95	92	106
	2.000	96	104	104	103	100	97	95	92	106
	2.500	96	104	104	102	100	97	95	92	105
	3.000	96	104	103	102	100	97	94	92	105
	4.000	94	103	103	102	99	96	94	92	105
	5.000	93	101	102	101	98	96	94	92	104
	6.000	92	100	101	100	97	95	93	91	103
4400	2.500	98	106	107	105	103	100	97	95	108
	3.000	98	106	107	105	103	99	97	95	108
	4.000	97	105	107	104	103	99	97	94	108
	5.000	96	104	106	104	102	99	96	94	107
	6.000	95	103	105	103	101	98	96	94	106

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

CCP-F Sound Data

135 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1500	1.000	79	78	79	78	76	75	72	62	82
1800	1.000	85	84	86	84	82	80	78	69	87
	1.250	84	84	85	83	81	79	77	69	87
	1.500	82	83	83	82	81	79	77	69	86
2100	1.000	89	90	90	89	86	84	82	75	92
	1.250	88	90	89	89	86	84	81	75	92
	1.500	87	89	89	88	85	83	81	75	91
	1.750	86	89	88	88	85	83	81	75	91
	2.000	85	88	88	87	84	83	81	74	90
2400	1.000	92	95	93	93	90	88	86	80	96
	1.250	91	95	93	93	90	88	85	80	96
	1.500	91	95	93	93	89	87	85	79	95
	1.750	90	94	92	93	89	87	85	79	95
	2.000	90	94	92	92	89	87	85	79	95
	2.500	88	92	91	91	88	86	84	79	94
2700	1.000	94	100	96	97	93	91	89	84	99
	1.250	94	99	96	97	93	91	89	84	99
	1.500	93	99	96	97	93	91	88	84	99
	1.750	93	99	96	97	93	90	88	84	99
	2.000	93	99	95	96	92	90	88	84	98
	2.500	92	98	95	96	92	90	88	84	98
	3.000	90	96	94	95	91	89	87	84	97
3000	1.250	96	103	99	100	96	93	92	88	102
	1.500	96	103	99	100	96	93	92	88	102
	1.750	95	103	98	100	96	93	91	88	102
	2.000	95	103	98	100	95	93	91	88	102
	2.500	95	102	98	99	95	93	91	88	101
	3.000	94	101	98	99	95	92	90	88	101
	4.000	92	99	97	97	93	92	90	87	100
3300	1.500	97	105	102	102	99	96	94	91	104
	1.750	97	105	101	102	98	96	94	91	104
	2.000	97	105	101	102	98	96	94	91	104
	2.500	97	105	101	102	98	95	93	91	104
	3.000	96	104	101	101	98	95	93	91	104
	4.000	95	103	100	100	97	95	92	90	103
	5.000	93	101	99	99	96	94	92	90	102
3600	1.750	99	107	105	104	101	98	96	93	107
	2.000	99	107	105	104	101	98	96	93	107
	2.500	99	107	104	104	101	98	96	93	106
	3.000	98	106	104	104	101	98	95	93	106
	4.000	97	105	103	103	100	97	95	93	106
	5.000	96	104	103	102	99	97	95	93	105
	6.000	94	103	102	101	98	96	94	92	104

150 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1500	1.000	85	82	85	82	80	78	76	65	86
	1.250	83	82	83	81	79	78	76	65	85
1800	1.000	90	89	90	88	85	83	81	72	91
	1.250	89	88	89	88	85	83	81	72	91
	1.500	88	88	89	87	85	83	81	72	90
	1.750	87	87	88	86	84	82	80	72	90
2100	1.000	93	95	94	93	90	88	85	78	96
	1.250	93	94	94	93	89	87	85	78	95
	1.500	93	94	93	92	89	87	85	78	95
	1.750	92	93	93	92	89	87	85	78	95
	2.000	91	93	92	91	89	87	85	78	94
	2.500	89	92	91	90	88	86	84	77	93
2400	1.000	96	99	97	97	93	91	89	83	99
	1.250	96	99	97	97	93	91	89	83	99
	1.500	95	99	97	97	93	91	88	83	99
	1.750	95	99	97	97	93	91	88	83	99
	2.000	95	98	96	96	93	90	88	83	98
	2.500	93	97	96	95	92	90	88	83	98
	3.000	92	97	95	94	91	89	88	83	97
2700	1.250	98	103	100	100	97	94	92	87	103
	1.500	98	103	100	100	96	94	92	87	102
	1.750	98	103	100	100	96	94	92	87	102
	2.000	97	103	99	100	96	94	91	87	102
	2.500	97	102	99	100	96	93	91	87	102
	3.000	96	102	99	99	95	93	91	87	101
	4.000	94	100	98	97	94	92	90	87	100
3000	1.500	100	107	103	103	99	97	95	91	105
	1.750	100	107	102	103	99	97	95	91	105
	2.000	99	107	102	103	99	96	95	91	105
	2.500	99	107	102	103	99	96	94	91	105
	3.000	99	106	101	103	98	96	94	91	105
	4.000	97	105	101	102	98	95	93	91	104
	5.000	96	103	100	100	97	95	93	91	103
3300	2.000	101	109	105	105	102	99	97	94	108
	2.500	101	109	105	105	102	99	97	94	107
	3.000	101	109	105	105	101	99	97	94	107
	4.000	100	108	104	105	101	98	96	94	107
	5.000	99	107	104	104	100	98	96	94	106
	6.000	97	105	103	102	99	97	95	93	105

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

165 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1200	1.000	79	79	80	78	77	75	70	60	82
1500	1.000	89	86	89	85	83	81	79	68	89
	1.250	88	86	88	85	83	81	79	68	89
	1.500	87	85	86	84	82	81	78	68	88
1800	1.000	94	93	93	91	89	87	84	75	94
	1.250	94	92	93	91	88	86	84	75	94
	1.500	93	92	93	91	88	86	84	75	94
	1.750	92	91	92	90	88	86	84	75	93
	2.000	91	91	91	90	87	85	83	75	93
2100	1.000	97	98	97	96	93	91	88	81	99
	1.250	97	98	97	96	93	91	88	81	98
	1.500	97	98	97	96	92	90	88	81	98
	1.750	96	97	97	96	92	90	88	81	98
	2.000	96	97	96	95	92	90	88	81	98
	2.500	94	96	96	94	91	89	87	81	97
	3.000	93	95	94	93	91	89	87	80	96
2400	1.250	99	103	100	100	96	94	92	86	102
	1.500	99	103	100	100	96	94	92	86	102
	1.750	99	103	100	100	96	94	91	86	102
	2.000	99	102	100	100	96	94	91	86	102
	2.500	98	102	99	99	95	93	91	86	101
	3.000	97	101	99	99	95	93	91	86	101
	4.000	95	99	98	97	94	92	90	85	100
2700	1.500	101	107	103	103	99	97	95	90	106
	1.750	101	107	103	103	99	97	95	90	105
	2.000	101	107	103	103	99	97	95	90	105
	2.500	101	106	103	103	99	97	94	90	105
	3.000	101	106	102	103	99	96	94	90	105
	4.000	99	105	102	102	98	96	94	90	104
	5.000	97	103	101	100	97	95	93	90	103
3000	2.000	103	111	106	106	102	100	98	94	108
	2.500	103	110	105	106	102	99	97	94	108
	3.000	103	110	105	106	102	99	97	94	108
	4.000	102	109	105	106	101	99	97	94	107
	5.000	101	108	104	105	101	98	96	94	107
	6.000	99	107	104	103	100	98	96	94	106

180 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1250	1.000	86	85	86	83	81	79	75	64	86
	1.250	84	84	84	82	81	79	74	64	86
1500	1.000	93	90	92	89	86	84	81	71	92
	1.250	92	89	91	88	86	84	81	71	92
	1.500	91	89	91	88	86	84	81	71	91
	1.750	90	88	89	87	85	83	81	71	91
1750	1.000	97	95	96	93	91	89	86	77	96
	1.250	97	95	96	93	90	88	86	77	96
	1.500	96	94	95	93	90	88	86	77	96
	1.750	95	94	95	92	90	88	86	77	96
	2.000	95	94	94	92	90	88	86	77	95
	2.500	93	93	93	91	89	87	85	76	94
2000	1.000	100	100	99	98	94	92	90	82	100
	1.250	99	100	99	97	94	92	89	82	100
	1.500	99	99	99	97	94	92	89	82	100
	1.750	99	99	99	97	94	92	89	82	100
	2.000	98	99	98	97	94	91	89	81	99
	2.500	97	98	98	96	93	91	89	82	99
	3.000	96	97	97	95	92	91	89	81	98
2250	1.250	102	104	102	101	97	95	93	86	103
	1.500	101	104	102	101	97	95	93	86	103
	1.750	101	104	102	101	97	95	92	86	103
	2.000	101	103	101	101	97	95	92	86	103
	2.500	101	103	101	100	97	94	92	86	103
	3.000	100	102	101	100	96	94	92	86	102
	4.000	98	101	99	98	95	93	91	86	101
2500	1.500	103	108	104	104	100	98	96	90	106
	1.750	103	107	104	104	100	98	96	90	106
	2.000	103	107	104	104	100	98	95	90	106
	2.500	103	107	104	104	100	97	95	90	106
	3.000	103	107	104	103	99	97	95	90	105
	4.000	101	105	103	102	99	96	94	90	105
	5.000	99	104	102	101	98	96	94	89	104
2750	2.000	105	111	107	107	103	100	98	93	109
	2.500	105	111	106	107	102	100	98	93	109
	3.000	105	110	106	107	102	100	97	93	108
	4.000	104	109	106	106	102	99	97	93	108
	5.000	102	108	105	105	101	99	97	93	107
	6.000	101	107	104	104	100	98	96	93	106

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

CCP-F Sound Data

195 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_0A
		1	2	3	4	5	6	7	8	
1000	1.000	80	80	80	79	77	76	69	58	82
1250	1.000	89	88	89	86	84	82	77	67	89
	1.250	88	87	88	86	84	82	77	67	89
	1.500	87	86	87	85	83	81	77	66	88
1500	1.000	97	93	95	91	89	87	84	74	95
	1.250	96	92	95	91	89	87	84	73	94
	1.500	95	92	94	91	88	86	84	73	94
	1.750	94	92	93	90	88	86	84	73	94
	2.000	93	91	92	90	88	86	84	73	93
1750	1.000	100	98	99	96	93	92	88	80	99
	1.250	100	98	98	96	93	91	88	79	99
	1.500	100	97	98	96	93	91	88	79	99
	1.750	99	97	98	95	93	90	88	79	98
	2.000	99	97	98	95	92	90	88	79	98
	2.500	97	96	97	94	92	90	88	79	98
	3.000	96	96	95	93	91	89	88	79	97
2000	1.250	103	103	102	100	97	95	92	84	103
	1.500	102	103	102	100	97	95	92	84	103
	1.750	102	102	101	100	96	94	92	84	102
	2.000	102	102	101	100	96	94	92	84	102
	2.500	101	102	101	99	96	94	91	84	102
	3.000	100	101	100	99	95	93	91	84	101
	4.000	98	100	98	97	94	93	91	84	100
2250	1.500	105	107	105	103	100	98	95	89	106
	1.750	104	107	104	103	100	98	95	89	106
	2.000	104	106	104	103	100	97	95	89	106
	2.500	104	106	104	103	99	97	95	88	105
	3.000	104	106	104	103	99	97	94	88	105
	4.000	102	105	103	102	98	96	94	88	104
	5.000	100	103	102	100	97	96	94	88	103
2500	1.750	106	110	107	107	103	100	98	93	109
	2.000	106	110	107	106	103	100	98	92	109
	2.500	106	110	107	106	102	100	98	92	108
	3.000	106	110	107	106	102	100	97	92	108
	4.000	105	109	106	106	102	99	97	92	108
	5.000	104	108	105	105	101	99	97	92	107
	6.000	102	107	105	103	100	98	96	92	106

210 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_0A
		1	2	3	4	5	6	7	8	
1000	1.000	83	84	84	82	80	78	71	61	85
1200	1.000	91	90	90	88	85	83	78	67	91
	1.250	90	89	90	87	85	83	78	68	90
	1.500	89	88	89	86	84	83	78	67	90
1400	1.000	97	94	95	92	90	88	84	73	95
	1.250	97	93	95	92	89	87	84	73	95
	1.500	96	93	95	91	89	87	83	73	95
	1.750	95	93	94	91	89	87	83	73	94
	2.000	94	92	93	90	88	86	83	73	94
1600	1.000	101	98	99	96	93	92	88	79	99
	1.250	101	97	99	96	93	91	88	78	99
	1.500	101	97	99	95	93	91	88	78	99
	1.750	100	97	98	95	93	90	88	78	98
	2.000	100	97	98	95	92	90	88	78	98
	2.500	98	96	97	94	92	90	88	78	97
	3.000	97	95	95	93	91	89	88	78	97
1800	1.250	103	102	102	99	96	94	91	83	102
	1.500	103	101	102	99	96	94	91	83	102
	1.750	103	101	101	99	96	94	91	82	102
	2.000	103	101	101	99	96	94	91	82	102
	2.500	102	101	101	98	95	93	91	82	101
	3.000	101	100	100	98	95	93	91	82	101
2000	1.500	105	105	104	102	99	97	94	87	105
	1.750	105	105	104	102	99	97	94	87	105
	2.000	105	105	104	102	99	97	94	86	105
	2.500	105	105	104	102	98	96	94	86	104
	3.000	104	104	103	101	98	96	94	86	104
	4.000	102	103	102	100	97	95	93	86	103
2200	1.750	107	109	106	105	102	99	97	90	108
	2.000	107	109	106	105	101	99	97	90	107
	2.500	107	108	106	105	101	99	96	90	107
	3.000	106	108	106	105	101	99	96	90	107
	4.000	105	107	105	104	100	98	96	90	106
	5.000	103	106	104	103	100	98	96	90	106

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

225 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
1000	1.000	87	87	87	85	83	81	73	63	88
	1.250	86	86	85	84	82	80	73	63	87
1200	1.000	94	92	93	90	88	85	80	69	93
	1.250	93	92	92	90	87	85	80	70	93
	1.500	92	92	92	89	87	85	80	70	92
	1.750	92	91	91	88	87	85	80	69	92
1400	1.000	100	97	98	94	92	90	86	76	98
	1.250	99	96	98	94	92	90	86	75	97
	1.500	99	96	97	94	91	89	86	75	97
	1.750	98	96	97	93	91	89	86	75	97
	2.000	98	95	96	93	91	89	86	75	96
	2.500	96	94	95	92	90	88	85	75	96
1600	1.000	104	100	101	98	95	94	90	81	101
	1.250	104	100	101	98	95	94	90	81	101
	1.500	104	100	101	98	95	93	90	80	101
	1.750	103	99	101	97	95	93	90	80	101
	2.000	103	99	101	97	95	93	90	80	100
	2.500	102	99	100	97	94	92	90	80	100
	3.000	100	98	99	96	94	92	90	80	99
1800	1.250	106	104	104	102	99	97	94	85	104
	1.500	106	104	104	101	98	97	94	85	104
	1.750	106	104	104	101	98	96	93	85	104
	2.000	106	104	104	101	98	96	93	85	104
	2.500	105	103	103	101	98	96	93	84	104
	3.000	104	103	103	100	97	95	93	84	103
	4.000	102	102	101	99	96	95	93	84	102
2000	1.500	108	108	107	105	101	99	96	89	107
	1.750	108	108	106	105	101	99	96	89	107
	2.000	108	108	106	104	101	99	96	89	107
	2.500	107	107	106	104	101	99	96	88	107
	3.000	107	107	106	104	100	98	96	88	106
	4.000	105	106	105	103	100	98	96	88	106
	5.000	104	105	104	102	99	97	95	88	105

245 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
900	1.000	83	87	86	85	82	75	69	63	86
	1.250	83	86	85	84	80	74	68	62	85
1100	1.000	87	92	92	90	88	83	76	69	92
	1.250	87	92	92	90	88	82	75	69	92
	1.500	87	92	91	90	87	82	75	69	92
	1.750	87	91	91	89	86	81	74	69	91
1300	1.000	91	97	98	95	93	89	82	75	98
	1.250	90	96	97	95	93	88	81	75	97
	1.500	90	96	97	94	92	88	81	74	97
	1.750	90	96	96	94	92	88	81	74	97
	2.000	90	96	96	94	92	87	80	74	96
	2.500	89	95	95	93	91	86	79	74	95
1500	1.000	94	101	102	99	97	94	87	80	102
	1.250	93	100	102	99	97	94	87	80	102
	1.500	93	100	102	98	97	93	86	79	101
	1.750	92	99	101	98	96	93	86	79	101
	2.000	92	99	101	98	96	93	85	79	101
	2.500	92	99	100	97	96	92	85	78	100
	3.000	92	99	100	97	96	91	84	78	100
1700	1.250	96	103	105	103	100	98	91	84	105
	1.500	96	103	105	102	100	98	91	84	105
	1.750	95	103	104	102	100	97	90	83	105
	2.000	95	102	104	102	100	97	90	83	105
	2.500	94	102	103	101	99	96	89	82	104
	3.000	94	102	103	101	99	96	89	82	104
	4.000	94	101	102	100	98	95	88	82	103
1900	1.500	98	105	108	106	103	101	95	88	108
	1.750	98	105	108	106	103	101	95	87	108
	2.000	98	105	107	105	103	100	94	87	108
	2.500	97	104	107	105	102	100	94	87	107
	3.000	96	104	106	104	102	99	93	86	107
	4.000	96	104	106	104	102	99	92	86	106
	5.000	96	103	105	103	101	98	91	85	106

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

CCP-F Sound Data

270 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
750	1.000	83	85	83	83	78	72	66	60	84
900	1.000	87	91	89	88	85	79	72	66	90
	1.250	87	90	89	88	84	78	72	66	89
	1.500	87	89	88	87	83	77	71	65	88
1050	1.000	90	95	94	92	90	85	77	71	94
	1.250	90	94	94	92	89	84	77	71	94
	1.500	90	94	94	92	89	83	77	70	94
	1.750	90	94	93	91	89	83	76	70	93
	2.000	89	93	92	91	88	82	76	70	93
1200	1.000	93	99	99	96	94	90	82	76	99
	1.250	92	98	98	96	94	89	82	75	98
	1.500	92	97	98	95	93	88	81	75	98
	1.750	92	97	97	95	93	88	81	75	97
	2.000	92	97	97	95	93	88	81	74	97
	2.500	92	97	96	94	92	87	80	74	96
1350	1.000	96	102	103	100	98	94	87	80	102
	1.250	95	101	102	99	97	93	86	80	102
	1.500	95	101	102	99	97	93	86	79	101
	1.750	94	100	101	98	96	92	85	79	101
	2.000	94	100	101	98	96	92	85	78	101
	2.500	94	100	101	98	96	92	84	78	100
	3.000	94	100	100	97	95	91	84	78	100
1500	1.250	98	104	106	102	100	97	90	83	105
	1.500	97	104	105	102	100	97	90	83	105
	1.750	97	103	105	101	100	96	89	82	104
	2.000	96	103	104	101	99	96	89	82	104
	2.500	96	103	104	101	99	95	88	81	104
	3.000	96	103	104	100	99	95	88	81	103
	4.000	96	102	103	99	98	94	87	81	102
1650	1.500	99	106	108	105	103	100	93	86	108
	1.750	99	106	107	104	102	100	93	86	107
	2.000	98	105	107	104	102	99	92	85	107
	2.500	98	105	106	104	102	99	92	85	107
	3.000	98	105	106	103	102	98	91	84	106
	4.000	97	104	105	103	101	97	91	84	106
	5.000	97	104	104	101	100	96	89	84	105
1800	1.750	101	108	110	107	105	102	96	89	110
	2.500	100	107	109	107	104	101	95	88	109
	4.000	99	106	108	105	103	100	94	87	108

300 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
750	1.000	87	90	88	87	83	76	69	63	88
	1.250	87	89	86	86	82	75	69	63	87
900	1.000	91	94	93	92	89	83	75	70	93
	1.250	91	94	93	92	88	82	75	69	93
	1.500	91	94	92	91	88	81	75	69	93
	1.750	91	93	92	91	87	81	75	69	92
1050	1.000	95	99	98	96	94	88	81	75	98
	1.250	94	98	98	96	93	88	81	74	98
	1.500	94	98	97	95	93	87	80	74	97
	1.750	94	98	97	95	92	87	80	74	97
	2.000	94	98	97	95	92	86	80	74	97
	2.500	93	97	96	94	91	85	79	73	96
1200	1.000	98	103	103	100	98	93	86	80	102
	1.250	97	102	102	100	97	93	86	79	102
	1.500	96	102	102	99	97	92	85	79	101
	1.750	96	101	101	99	96	92	85	78	101
	2.000	96	101	101	99	96	91	84	78	101
	2.500	96	101	101	98	96	91	84	78	100
	3.000	96	101	100	98	95	90	83	77	100
1350	1.250	100	106	106	103	101	97	90	83	106
	1.500	99	105	106	102	100	97	90	83	105
	1.750	99	105	105	102	100	96	89	82	105
	2.000	98	104	105	102	100	96	89	82	105
	2.500	98	104	104	101	99	95	88	82	104
	3.000	98	104	104	101	99	95	88	81	104
	4.000	98	103	103	100	98	93	87	81	103
1500	1.500	101	108	109	105	104	101	93	86	108
	1.750	101	108	109	105	103	100	93	86	108
	2.000	101	107	108	105	103	100	93	86	108
	2.500	100	107	108	104	103	99	92	85	107
	3.000	100	106	107	104	102	99	92	85	107
	4.000	100	106	107	103	102	98	91	84	107
	5.000	99	106	106	102	101	97	90	84	106

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

330 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
625	1.000	86	87	86	84	79	72	67	60	85
750	1.000	91	93	91	90	86	79	72	67	91
	1.250	91	93	91	90	86	79	72	66	91
	1.500	91	92	90	89	85	78	72	66	90
875	1.000	94	98	96	94	91	85	78	72	96
	1.250	94	97	95	94	91	84	77	72	95
	1.500	94	97	95	94	90	84	77	71	95
	1.750	94	96	95	93	90	83	77	71	95
	2.000	94	96	94	93	89	83	77	71	94
1000	1.000	97	101	100	98	96	90	83	77	100
	1.250	97	101	100	98	95	89	82	76	100
	1.500	96	100	99	97	94	89	82	76	99
	1.750	96	100	99	97	94	88	81	75	99
	2.000	96	100	99	97	94	88	81	75	99
	2.500	96	99	98	96	93	87	81	75	98
1125	1.000	100	105	104	101	99	94	87	81	104
	1.250	100	104	104	101	99	94	87	80	103
	1.500	99	104	103	101	98	93	86	80	103
	1.750	99	103	103	100	98	93	86	79	102
	2.000	98	103	102	100	98	92	85	79	102
	2.500	98	103	102	100	97	92	85	79	102
	3.000	98	102	101	99	97	91	84	78	101
1250	1.250	102	107	107	104	102	98	90	84	106
	1.500	101	107	107	104	101	97	90	83	106
	1.750	101	106	106	103	101	97	90	83	106
	2.000	101	106	106	103	101	96	89	83	106
	2.500	100	105	105	103	100	96	89	82	105
	3.000	100	105	105	102	100	95	88	82	105
	4.000	100	105	104	101	99	94	87	82	104
1375	1.500	103	109	110	106	104	101	93	87	109
	1.750	103	109	109	106	104	100	93	86	109
	2.000	103	109	109	106	104	100	93	86	109
	2.500	102	108	108	105	103	99	92	85	108
	3.000	102	108	108	105	103	99	92	85	108
	4.000	102	107	107	104	103	98	91	85	107
	5.000	101	107	107	103	102	97	90	84	106

365 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
625	1.000	87	90	87	86	81	75	68	61	87
	1.250	86	89	86	84	80	74	67	61	85
750	1.000	92	97	93	92	89	83	75	68	94
	1.250	91	96	92	91	88	81	74	68	93
	1.500	90	95	91	90	87	80	73	67	92
	1.750	90	94	90	89	86	80	73	67	91
	2.000	89	93	90	88	84	79	73	67	90
875	1.000	95	101	98	96	94	89	81	74	99
	1.250	95	100	97	96	93	88	80	73	98
	1.500	94	100	97	95	93	87	79	73	97
	1.750	94	99	96	95	92	86	79	72	97
	2.000	93	98	96	94	91	85	78	72	96
	2.500	92	97	94	93	89	84	78	71	94
1000	1.000	98	104	102	100	98	94	86	78	103
	1.250	97	103	102	100	98	93	85	78	102
	1.500	97	103	102	99	97	93	85	78	102
	1.750	97	103	101	99	97	92	84	77	101
	2.000	96	102	101	98	96	91	84	77	101
	2.500	96	101	100	98	95	90	83	76	100
	3.000	95	100	99	97	94	89	82	76	99
1125	1.000	100	106	106	103	101	98	91	82	106
	1.250	100	106	106	103	101	98	90	82	106
	1.500	100	106	106	102	101	97	90	82	105
	1.750	99	105	106	102	100	96	89	81	105
	2.000	99	105	105	102	100	96	89	81	105
	2.500	99	104	105	101	99	95	88	81	104
	3.000	98	104	104	101	98	94	87	80	103
	4.000	97	102	102	99	96	92	86	79	101
1250	1.000	102	108	110	105	104	102	95	86	109
	1.250	102	108	110	105	104	101	95	86	109
	1.500	102	108	109	105	104	101	94	85	109
	1.750	101	108	109	105	104	100	94	85	108
	2.000	101	107	109	105	103	100	93	85	108
	2.500	101	107	108	104	103	99	92	84	107
	3.000	100	106	108	104	102	98	91	84	107
	4.000	100	105	107	103	101	96	90	83	106
	5.000	98	104	105	102	99	95	89	82	104

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

CCP-F Sound Data

402 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
500	1.000	85	85	83	81	76	70	63	57	82
600	1.000	90	93	90	88	84	77	70	64	89
	1.250	89	92	89	87	82	76	69	63	88
	1.500	88	90	87	86	81	75	69	63	87
700	1.000	94	99	94	93	90	84	76	69	95
	1.250	94	98	94	93	89	83	75	69	94
	1.500	93	97	93	92	88	81	74	68	93
	1.750	92	96	92	91	87	81	74	68	92
	2.000	91	95	91	90	86	80	74	68	91
800	1.000	97	103	98	97	95	89	81	74	99
	1.250	97	102	98	97	94	88	80	74	99
	1.500	96	101	97	96	93	87	79	73	98
	1.750	96	101	97	96	93	86	79	72	97
	2.000	95	100	96	95	92	86	78	72	97
	2.500	94	98	95	94	90	84	78	72	95
900	1.000	99	105	102	100	98	94	85	78	103
	1.250	99	105	102	100	98	93	85	78	102
	1.500	99	104	101	100	97	92	84	77	102
	1.750	98	104	101	99	97	92	84	77	101
	2.000	98	103	101	99	96	91	83	76	101
	2.500	97	102	100	98	95	89	82	76	100
	3.000	97	101	99	97	94	88	82	75	99
1000	1.000	101	107	106	103	101	98	89	82	106
	1.250	101	107	105	103	101	97	89	81	106
	1.500	101	107	105	103	101	96	88	81	105
	1.750	101	106	105	102	100	96	88	81	105
	2.000	101	106	105	102	100	95	88	80	104
	2.500	100	105	104	101	99	94	87	80	104
	3.000	99	105	103	101	98	93	86	79	103
	4.000	98	103	101	99	96	91	85	79	101
1100	1.000	103	109	109	105	104	101	93	85	109
	1.250	103	109	109	105	104	100	93	85	108
	1.500	103	109	108	105	103	100	92	84	108
	1.750	103	108	108	105	103	99	92	84	108
	2.000	103	108	108	105	103	99	91	84	108
	2.500	102	108	107	104	102	98	91	83	107
	3.000	102	107	107	104	101	97	90	83	106
	4.000	101	106	106	103	100	95	88	82	105
	5.000	99	104	104	101	98	94	88	81	103

445 CCP-F

RPM	SP	Sound Power re 10^{-12} Watts Octave Bands								Lw_oA
		1	2	3	4	5	6	7	8	
500	1.000	90	90	88	85	80	73	67	61	86
	1.250	88	88	86	84	79	73	66	60	85
600	1.000	95	97	94	92	88	81	74	67	93
	1.250	94	96	93	91	87	80	73	66	92
	1.500	93	95	92	90	85	79	72	66	91
	1.750	92	94	91	89	84	78	72	66	90
700	1.000	98	102	98	97	94	88	79	73	99
	1.250	98	102	97	96	93	87	79	72	98
	1.500	97	101	97	96	92	86	78	72	97
	1.750	97	101	96	95	91	85	78	71	96
	2.000	96	100	96	94	90	84	77	71	96
	2.500	95	98	94	93	89	83	77	71	94
800	1.000	101	106	102	101	99	93	84	77	103
	1.250	101	106	101	100	98	92	84	77	102
	1.500	100	105	101	100	97	92	83	77	102
	1.750	100	105	101	100	97	91	83	76	101
	2.000	100	104	100	99	96	90	82	76	101
	2.500	99	103	99	98	95	88	81	75	100
	3.000	98	102	98	97	93	87	81	75	98
900	1.000	103	109	105	104	102	97	89	81	106
	1.250	103	108	105	103	102	97	88	81	106
	1.500	103	108	105	103	101	96	88	81	106
	1.750	103	108	105	103	101	96	87	81	105
	2.000	102	107	104	103	100	95	87	80	105
	2.500	102	107	104	102	99	94	86	79	104
	3.000	101	106	103	101	98	92	85	79	103
	4.000	100	104	101	99	96	91	85	78	101
1000	1.000	105	111	109	106	105	101	93	85	109
	1.250	105	110	109	106	104	101	92	85	109
	1.500	105	110	109	106	104	100	92	84	109
	1.750	105	110	108	106	104	100	92	84	108
	2.000	105	110	108	106	104	99	91	84	108
	2.500	104	109	108	105	103	98	90	83	107
	3.000	104	109	107	105	102	97	90	83	107
	4.000	103	107	106	103	100	95	88	82	105
	5.000	101	106	104	102	99	94	88	82	104

The sound power level ratings shown are in decibels referred to 10^{-12} watts calculated per AMCA Standard 301. The A-weighted sound ratings shown has been calculated per AMCA Standard 301. Values shown are for outlet Lw_0 and outlet Lw_0A sound power levels for installation Type A: free inlet, free outlet. Ratings do not include effects of duct end corrrection.

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