CECO HEE-Duall

Air Pollution Control Products
HPC SERIES

FRP Centrifugal Fans

Bulletin HEE HPC 200A
December 2017

CECO ENVIRONMENTAL

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GENERAL INFORMATION

All Wheels are statically and dynamically balanced on electronically controlled balancing machines. The necessary weight adjustments are made by removing excess materials, or by permanently bonding fiberglass materials to the wheel. After assembly, the fans are test run at the customers operating speed to locate and correct any minor misalignments that may have occurred during assembly. They are checked for proper bearing operation.

The performance tables shown in this brochure are based on unobstructed air flow into the inlet of the fan. During installation, the fan inlet conditions should be designed to allow the air to enter the housing resembling a fan with an unobstructed inlet. The fan performance can be adversely affected by poor inlet conditions creating uncontrolled spin, unequal air loading or imbalance. Elbows located directly at the inlet should be avoided and properly sized inlet boxes or straightening vanes should be utilized. It is good practice to include the equivalent of two duct diameters prior to the fan inlet.

The addition of the short outlet stack will improve the overall performance of the fan. Testing has shown up to a 7% improvement in performance by the addition of an outlet stack.

The BI wheel provides non-overloading performance. This allows the brake horsepower to level off at a point where motors can be economically selected so they will not overload if the system pressure drops.

The brake horsepower shown in the performance tables does not include the drive losses. Normally, the belt drive losses vary from 5% to 20% of the motor horsepower output.

The chemical and structural properties of fiberglass are excellent. FRP fans moving air at higher temperatures will usually affect the chemical resistance. In addition, the maximum safe operating speed should be de-rated using the following table:

Maximum Safe Speed Correction Factors

Temp (F)	70	100	150	175	200
Factor	1	1	0.95	0.93	0.91

To obtain the new maximum safe speed when temperature is involved, multiply the maximum safe speed as listed for each fan sized by correction factor.

Each of the following capacity tables include a CFM, Static Pressure, outlet velocity, and the corresponding RPM and BHP. If capacities are not at standard conditions (0.75 lbs/ft 3), correction factors must be applied to the static pressure and BHP.

Temp (F)	70	100	150	175	200
Factor	1	1.06	1.15	1.2	1.25

Altitude	0	1000	2000	3000	4000
Factor	1	1.04	1.08	1.12	1.16

Altitude	5000	6000	7000	8000	9000
Factor	1.2	1.25	1.3	1.35	1.4

To correct for temperature and elevation multiply the static pressure at standard conditions by the factors above. Then make the section as usually. The BHP can be calculated at actual conditions by dividing the tabulated value by the temperature/elevation correction factor.

EXAMPLE:

1500 CFM at 3" WC Corrected for 100F and 3000' Altitude.
3" x 1.06 x 1.12 = 3.56" WC
FROM TABLES

HPC 1225
RPM = 3236, BHP = 1.79

BHP correction: 1.79 / 1.06 / 1.12 = 1.51 BHP

Final Selection:
RPM = 3172
BHP = 1.15

AMCA Seal Met-Pro Technologies, d/b/a HEE Enviro. Eng. & Duall Air & Water Technologies certifies that the HPC series FRP Centrifugal Fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA PUBLICATION 211 and comply with the requirements of the AMCA Certified Ratings Program.

CECO ENVIRONMENTAL

FIBERGLASS CENTRIFUGAL FAN | MODEL HPC
STANDARD FEATURES

The Model HPC fiberglass fan is a backward curved, Single Width, Single Inlet (SWSI) industrial fan designed to handle corrosive or caustic air in low to moderate pressure application. All parts exposed to the airstream are construction of a premium grade corrosion resistant vinyl ester fiberglass. The model HPC fan is licensed to bear the AMCA Seal for Certified Air Performance, bears the marking and conforms to ASTM D4167-15. Standard configuration is arrangement 9, belt drive with the motor and slide base mounted on side of the metal fan frame.

PERFORMANCE is from 125 CFM to 7,500 CFM at free delivery and up to 9 inches W.G. and suitable for airstream temperature up to 200°F

AIR PERFORMANCE AND SOUND DATA is based on test and procedures as outlined in ANSI/AMCA Standard 210-16/ ASHRAE 51-16 and rated in accordance with AMCA 211-13. Sound data is obtained as described in ANSI/AMCA 300-08 and processed per procedures per ANSI/AMCA 301-14.

SIZES of 1050, 1225, 1500 and 1825 (4 sizes) for Class I and Class II tip speeds up to 10,000 and 14,000 feet per minute.

CORROSION-RESISTANT CONSTRUCTION is used throughout the model HPC fan using premium grade fiberglass construction materials for the with no metal parts exposed in the airstream. All 316 stainless steel hardware is used, grade 5 electroplated hardware is used to secure the bearings and motor to the fan frame. Drain connection is 1 inch NPT. The inlet is plain end collar connection and the outlet is flanged. The fiberglass housing is constructed using a fire retardant AOC vinyl ester resin to achieve a Class 1 flame spread of 25 or less per ASTM E-84-06. All exterior surfaces of the fiberglass fan components are coated with a UV resistant coating with a colorant such as tan or white.

ROTATION AND DISCHARGE POSITIONS are available in counterclockwise and clockwise rotation in the standard sixteen discharge positions. The housing is rotatable on all diameters at 45-degree increments.

WHEEL DESIGN is 100% premium AOC vinyl ester fiberglass construction with an eight flat blade shaped design and non-overloading operation with self-limiting horsepower that reaches a peak in the selected area. The wheel and shaft assembly is statically and dynamically balanced per ISO 1940/1 and ANSI S2.19-1975 using balance quality grade 6.3.

FAN SHAFT is carbon steel turned ground and polished, conforms to AISI 1045 and keyed at both ends with a dimple for RPM measurement. The shaft is securely fixed and bonded to the wheel backplate using a steel hub and completely encapsulated with fiberglass. A fiberglass shaft sleeve will extend through the housing for corrosion protection. Shafts are sized to operate at 80% of first critical shaft speed.

FAN SHAFT SEAL will be neoprene with a fiberglass retainer ring installed to the fan housing backplate where the shaft leaves the fan housing.

BEARINGS will be normal or medium duty ball bearing pillow block design, self-aligning with felt-lined flinger seal and 120° setscrew position, black oxide, corrosion resistant race with a one-piece cast iron housing material. Bearings will be selected with a minimum average bearing life (AFMBLA L-50) of 250,000 hours. Larger diameter shafts will utilize tapered roller bearings design.

DRIVE (BELT DRIVEN FANS) fixed speed V-belt drives will be standard using cast iron sheaves on the motor and fan shafts selected with a minimum safety factor of 1.3 for 10 HP and under and a safety factor of 1.4 for motors larger than 10 HP.

MOTORS will be TECO Westinghouse TEFC MAX-PE® to meet the latest NEMA, IEEE and SCA standards with NEMA Design B, 36 month warranty, for 60 Hz (230/460V), UL recognized, Class F insulation with 1.15 Service Factor, Class B temperature rise @ 40°C ambient, Design B torques as a minimum, Inverter rated per NEMA MG 1 with a 1.0 S.F., UL recognized, DOE certified, CSA approved, CE marked and EISA compliant. Motors are suitable for Class I, Division II, Groups B, C and D. Motors are mounted on a slide base for an arrangement 9 configuration.

MOTOR DRIVE CANOPY or weather covers are fabricated of fiberglass reinforced plastics and are used when the fan is located indoors or outdoors. These covers are designed to provide protection of the motor, drives, shaft, and bearings.

FAN BASE will be heavy gauge carbon steel, welded. Bare metal is cleaned with no trace of oil, grease, rust, or moisture. All metal surfaces are treated with an abrasive blast using a titanium derivative of a fine to medium quartz mixture. All metal surfaces are treated to a white metal finish. An electrostatic powder coating is applied within an eight (8) hour period and an oven cure is completed.

FACTORY TEST of the completely assembled fan is conducted prior to shipment at the operating speed or maximum allowable RPM and will pass the vibration requirements of ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" taking a reading on both bearings in the vertical, horizontal and axial direction. Records will be maintained of the test results and available upon request.

FIBERGLASS CENTRIFUGAL FAN | MODEL HPC
OPTIONS

ADJUSTABLE OR VARIABLE PITCH DRIVES are provided and will allow up to ten percent adjustment of the fan RPM in either direction.

ARRANGEMENT 1 is required for motors too large to fit on the side of the arrangement 9 fan steel base and is available per your requirements with the motor position in standard AMCA positions. This Arrangement 1 will require a separate steel structural base for mounting the fan and motor with a belt guard and shaft-bearing guard.

ARRANGEMENT 8 is a direct drive arrangement with a flexible FALK coupling. The fan shaft connects directly to the fan motor shaft and includes lifting lugs. This arrangement eliminates the requirement for V-Belt sheaves and belts and provides the smoothest fan operation for applications requiring minimal vibration by eliminating belt slap and reduced maintenance. This arrangement 8 also allows for a larger motor

BELT AND SHAFT GUARD can be used when fans are installed indoors and will cover drives, belts, bearings and fan shafts. Both guards can be easily removed for access to the drives and bearings. These guards will replace the Motor Drive Canopy. This is required for an arrangement 1 fan configuration.

CUSTOM EXTERIOR COLOR can be any color to match your requirements or you can request the Interplastic Color Selection Chart to select from optional colors. Standard colors are TAN and WHITE.

FLANGE DRILLING is available on all flanges for ease of direct connection to ductwork and included stainless steel hardware and caulking.

FLANGED INLET is permanently bonded to the attaching ring and provides a continuous smooth flange surface. Drilling is available as an option. Dimensions and drilling confirms to PS 15-69 and ASTM D3982-08. An inlet collar is standard.

HOUSING DRAIN fitting is 1 inch NPT standard but can be 2 inch NPT on larger fans. The drain fitting can also be supplied with an isolation valve and PVC elbow and short pipe for convenient field connection.

INLET OR OUTLET SCREENS can be installed to offer protection on the inlet side from the rotating fan wheel or on the outlet to prevent foreign objects from entering the wheel housing.

INTERIOR VEIL is standard on the fan wheel blades and the back plate. If an addition barrier is required because of severe chemical service application on the fan housing interior, a veil interior can be provided on the fan housing as an option. However, the fan housing already includes a resin rich and smooth flow coat without the use of a surface veil.

MOTOR ENCLOSURES are available in many different enclosure types such as IEEE-841 (Petroleum and Chemical Industry) and explosion proof for Class I and Class II requirements.

MOTOR OPTIONS include insulated bearings and shaft grounding rings and are used to eliminate and reduce shaft currents and/or winding stresses by using an inverter (VFD). Other options include thermostats, thermistors, RTDs, space heaters, high altitude rating, special voltages and overseas hertz requirements.

SHAFT can be 304, 316 Stainless Steel or Hastalloy C shafts are available and will provide an extra degree of corrosion resistance when the fans area installed in a harsh chemical environment.

SHAFT SEAL can be Viton or Teflon shaft seal material offering superior chemical resistance and seals against the fiberglass shaft sleeve instead of the standard neoprene material. For service operating with a positive pressure in the fan housing, a mechanical shaft seal is also available as an option with a lubricated double lip seal.

SPARK RESISTANT CONSTRUCTION is used for applications which handle potentially explosive fumes or gases. The interior air stream surface is coated with a conductive coating and a grounding strap is secured to the steel base. During installation, the steel fan frame should be grounded. Request the Spark Resistant Construction Data Sheet for further details.

STAINLESS STEEL FAN BASE can be supplied using 316 stainless material instead of carbon steel–power coated construction. This option provide additional protection against environmentally corrosive locations.

FIBERGLASS CENTRIFUGAL FAN | MODEL HPC
ACCESSORIES

ACCESS DOOR is necessary for wheel inspection and maintenance on all units which utilize a discharge transition or stack. All access doors are fiberglass and bolted to the housing and include neoprene gaskets and can follow the contour of the fan housing or be a raised surface design with a flanged cover bolted in place.

BALLISTIC BLANKET PROTECTION uses a Kevlar construction and secure netting construction system designed to withstand and provide protection in the unlikely event the wheel components delaminate and become separated.

DISCONNECT SWITCH can be mounted and wired to the fan and fan motor or can be shipped loose for field installation. NEMA 3R, 1 or 4X are available.

EXTENDED LUBE LINES can be provided allowing a convenient method of lubricating the bearings without the need to remove guards or covers

FLEXIBLE CONNECTIONS are supplied and fabricated from a wide variety of different elastomer materials suitable for service with corrosives contained in the air stream. The design can be wrapped style, flanged or boot sleeve style with carbon steel, stainless steel or fiberglass backup rings. Elastomer materials can be EPDM, Neoprene, solid PTFE or PTFE coated fiberglass or Viton.

GRAVITY DAMPERS constructed of fiberglass prevent rain from entering the inlet duct work and foreign objects from entering the fan wheel during shut down periods. In addition, they can also reduce the amount of backwards airflow in a parallel fan arrangement if the fan goes offline for service or maintenance.

INLET BOXES are fabricated of fiberglass and provide a convenient means of locating an inlet 90 degrees to the fan inlet with predictable entry losses. This minimizes the pressure drop and is recommended to provide uniform air flow into the fan wheel.

INLET VANE AND OUTLET DAMPERS fabricated of FRP or 316 stainless steel provide a means of volume control with corrosion resistance. Dampers can be motorized either electrically or pneumatically.

LIFTING LUGS can be included on the steel fan frame to simplify lifting the fan during installation. Lifting lugs are standard on arrangement 8 fans.

NOISE REDUCTION options include a fiberglass sound enclosure to reduce the transmission of noise by 10-20 dBA or a heavy core acoustic blanket secured around the fan housing.

OUTLET TRANSITIONS are match drilled to the fan outlet flange and allow the installation of a round duct. These are fabricated from fiberglass and can be customized for the application.

STACKS are available using fiberglass construction and are built to order for a free standing or guy wire design and include seismic and wind load calculations.

VARIABLE FREQUENCY DRIVES (INVERTERS) can be supplied (shipped loose) and are used to control fan speed. This is a great method to reduce electrical energy consumption and adjust the fan to the exact air flow requirements for various exhaust applications. The Electronic Brake feature can also be used to prevent the wheel-shaft assembly from rotating on a standby fan when a second fan is operational.

VIBRATION ISOLATION BASES are available to control the transmission of fan vibration to the surround structures or building and can be structural steel channel or concrete inertia baes with spring isolation and seismic snubbers.

VIBRATION ISOLATORS are available in variety of design using rubber or spring isolators.

VIBRATION SENSORS can be installed on the fan shaft bearings for convenient or continuous monitoring of vibration in the vertical, horizontal and axial direction.

Air Pollution Control | FAN PERFORMANCE DATA

SWSI BI FB | HPC 1050
Fiberglass Centrifugal Fan
Classes I, II
Backward Inclined - Flat Blade
Wheel: 10.5" Diameter
Wheel Circumference: 2.75 Ft.

Inlet: 10.5" Dia I.D. (0.60 Sq Ft)
Outlet: 8" x 11.75" (0.65 Sq Ft)

Maximum RPM Speed
Class I: 3,637 RPM
Class II: 5,093 RPM

VOL CFM	OV FPM	Static Pressure - Inches W.C. 1.0 RPM	1.0 BHP	2.0 RPM	2.0 BHP	3.0 RPM	3.0 BHP	4.0 RPM	4.0 BHP	5.0 RPM	5.0 BHP	6.0 RPM	6.0 BHP	7.0 RPM	7.0 BHP	8.0 RPM	8.0 BHP	10.0 RPM	10.0 BHP
125	191	1644	0.07	2228	0.17	2782	0.3	3199	0.45	3566	0.61	3897	0.79	4202	0.98	4486	1.19	5004	1.67
250	383	1730	0.09	2375	0.22	2870	0.37	3288	0.53	3655	0.72	3987	0.92	4293	1.13	4577	1.36		
500	766	1923	0.16	2551	0.34	3043	0.53	3460	0.74	3827	0.97	4160	1.21	4466	1.47	4750	1.74		
800	1,226	2239	0.30	2805	0.53	3274	0.79	3679	1.06	4041	1.34	4370	1.64	4674	1.96	4958	2.28		
1,000	1,532	2501	0.43	3013	0.71	3455	1.00	3846	1.32	4199	1.64	4522	1.98	4822	2.33				
1,200	1,838	2794	0.62	3252	0.93	3663	1.26	4034	1.62	4374	1.99	4689	2.37	4982	2.76				
1,400	2,145	3108	0.85	3518	1.21	3896	1.58	4245	1.97	4570	2.38	4873	2.8						
1,500	2,298	3271	1.00	3659	1.37	4021	1.76	4359	2.18	4675	2.61	4971	3.05						
1,600	2,451	3437	1.16	3805	1.55	4152	1.96	4478	2.4	4785	2.84	5075	3.31						
1,800	2,757	3776	1.53	4110	1.97	4428	2.42	4732	2.89	5021	3.38								
2,000	3,064	4124	2.00	4427	2.47	4721	2.96	5003	3.47										
2,200	3,370	4478	2.55	3282	3.06	5026	3.59												

SWSI BI FB | HPC 1225
Fiberglass Centrifugal Fan
Classes I, II
Backward Inclined - Flat Blade
Wheel: 12.25" Diameter
Wheel Circumference: 3.21 Ft.

Inlet: 13" Dia I.D. (0.92 Sq Ft)
Outlet: 9.5" x 12.5" (0.83 Sq Ft)

Maximum RPM Speed
Class I: 3,115 RPM
Class II: 4,361 RPM

VOL CFM	OV FPM	Static Pressure - Inches W.C. 1.0 RPM	1.0 BHP	2.0 RPM	2.0 BHP	3.0 RPM	3.0 BHP	4.0 RPM	4.0 BHP	5.0 RPM	5.0 BHP	6.0 RPM	6.0 BHP	7.0 RPM	7.0 BHP	8.0 RPM	8.0 BHP	9.0 RPM	9.0 BHP
250	301	1548	0.11	2124	0.27	2569	0.46	2945	0.67	3277	0.9	3577	1.15	3853	1.42	4110	1.71	4351	2.01
500	602	1682	0.18	2281	0.4	2724	0.64	3096	0.91	3423	1.19	3720	1.5	3993	1.82	4248	2.16		
1000	1,205	2006	0.4	2544	0.72	2974	1.06	3365	1.45	3714	1.86	4024	2.29	4304	2.74				
1200	1,446	2161	0.52	2684	0.91	3098	1.3	3459	1.7	3796	2.14	4111	2.62						
1400	1,687	2314	0.68	2826	1.11	3239	1.57	3588	2.02	3902	2.49	4199	2.98						
1500	1,807	2388	0.76	2901	1.23	3308	1.71	3658	2.2	3967	2.68	4254	3.19						
1600	1,928	2464	0.85	2979	1.35	3379	1.86	3728	2.38	4035	2.9	4317	3.42						
1800	2,169	2632	1.07	3136	1.63	3525	2.19	3868	2.77	4176	3.35								
2000	2,410	2819	1.33	3288	1.94	3681	2.57	4012	3.19	4316	3.84								
2200	2,651	3017	1.64	3437	2.29	3838	2.99	4164	3.67										
2400	2,892	3223	2.02	3596	2.69	3990	3.45	4321	4.2										
2600	3,133	3434	2.45	3772	3.15	4138	3.95												
2800	3,373	3650	2.95	3959	3.68	4291	4.51												
3000	3,614	3868	3.52	4155	4.28														
3200	3,855	4089	4.16	4357	4.97														
3400	4,096	4311	4.88																

SWSI BI FB | HPC 1500
Fiberglass Centrifugal Fan
Classes I, II
Backward Inclined - Flat Blade
Wheel: 15" Diameter
Wheel Circumference: 3.93 Ft.

Inlet: 16" Dia I.D. (1.40 Sq Ft)
Outlet: 12" x 15.75" (1.31 Sq Ft)

Maximum RPM Speed
Class I: 2,544 RPM
Class II: 3,562 RPM

VOL CFM	OV FPM	Static Pressure - Inches W.C. 1.0 RPM	1.0 BHP	2.0 RPM	2.0 BHP	3.0 RPM	3.0 BHP	4.0 RPM	4.0 BHP	5.0 RPM	5.0 BHP	6.0 RPM	6.0 BHP	7.0 RPM	7.0 BHP	8.0 RPM	8.0 BHP	9.0 RPM	9.0 BHP
1000	725	1239	0.3	1682	0.62	2028	0.98	2320	1.36	2575	1.76	2804	2.19	3014	2.64	3209	3.11	3391	3.59
1200	870	1281	0.36	1714	0.72	2056	1.12	2348	1.54	2606	1.99	2837	2.46	3049	2.95	3246	3.46	3430	3.98
1400	1,014	1334	0.43	1750	0.83	2087	1.27	2376	1.74	2634	2.23	2866	2.74	3080	3.27	3278	3.82	3464	4.38
1600	1,159	1392	0.5	1790	0.95	2122	1.44	2407	1.94	2662	2.47	2894	3.03	3108	3.6	3308	4.19	3494	4.79
1800	1,304	1446	0.58	1837	1.08	2159	1.61	2441	2.16	2693	2.73	2923	3.32	3136	3.94	3335	4.57	3523	5.21
2000	1,449	1497	0.68	1892	1.22	2201	1.79	2478	2.38	2727	3	2955	3.64	3166	4.29	3364	4.96	3550	5.65
2200	1,594	1557	0.79	1950	1.37	2248	1.98	2518	2.62	2764	3.28	2989	3.96	3198	4.66	3394	5.37		
2400	1,739	1626	0.92	2007	1.53	2303	2.19	2562	2.87	2803	3.57	3026	4.3	3233	5.04	3427	5.79		
2600	1,884	1701	1.06	2058	1.7	2361	2.41	2612	3.13	2845	3.87	3064	4.64	3270	5.43	3462	6.23		
2800	2,029	1779	1.23	2109	1.88	2419	2.64	2667	3.41	2893	4.19	3106	5	3308	5.83	3499	6.68		
3000	2,174	1860	1.42	2166	2.09	2474	2.89	2726	3.7	2945	4.53	3152	5.38	3350	6.25	3538	7.14		
3200	2,319	1942	1.63	2231	2.33	2525	3.14	2784	4.01	3002	4.89	3203	5.78	3395	6.69				
3400	2,464	2026	1.85	2302	2.6	2576	3.42	2840	4.34	3061	5.26	3259	6.19	3445	7.15				
3600	2,609	2111	2.1	2376	2.89	2631	3.72	2891	4.68	3119	5.65	3317	6.63	3499	7.63				
3800	2,754	2198	2.38	2453	3.21	2693	4.06	2941	5.03	3174	6.06	3375	7.09	3556	8.13				
4000	2,899	2286	2.67	2532	3.56	2760	4.44	2994	5.41	3226	6.48	3433	7.57						

SWSI BI FB | HPC 1825
Fiberglass Centrifugal Fan
Classes I, II
Backward Inclined - Flat Blade
Wheel: 18.25" Diameter
Wheel Circumference: 4.78 Ft.

Inlet: 20" Dia I.D. (2.18 Sq Ft)
Outlet: 14" x 19" (1.85 Sq Ft)

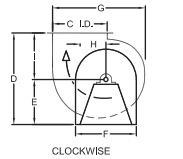
Maximum RPM Speed
Class I: 2,092 RPM
Class II: 2,929 RPM

VOL CFM	OV FPM	Static Pressure - Inches W.C. 1.0 RPM	1.0 BHP	2.0 RPM	2.0 BHP	3.0 RPM	3.0 BHP	4.0 RPM	4.0 BHP	5.0 RPM	5.0 BHP	6.0 RPM	6.0 BHP	7.0 RPM	7.0 BHP	8.0 RPM	8.0 BHP	9.0 RPM	9.0 BHP
1,600	866	1,122	0.53	1,481	1.07	1,763	1.67	2,002	2.33	2,214	3.03	2,405	3.78	2,581	4.57	2,745	5.40	2,898	6.25
2,000	1,083	1,197	0.69	1,542	1.31	1,820	2	2,057	2.73	2,267	3.51	2,458	4.33	2,633	5.20	2,797	6.09		
2,400	1,299	1,248	0.90	1,611	1.60	1,881	2.36	2,114	3.18	2,323	4.04	2,512	4.94	2,687	5.88	2,850	6.85		
2,800	1,516	1,382	1.15	1,688	1.93	1,948	2.78	2,176	3.68	2,382	4.62	2,569	5.6	2,743	6.61	2,905	7.66		
3,200	1,732	1,487	1.46	1,773	2.32	2,022	3.25	2,244	4.23	2,445	5.25	2,629	6.31	2,801	7.41				
3,600	1,949	1,600	1.83	1,865	2.77	2,102	3.78	2,316	4.85	2,512	5.95	2,693	7.09	2,863	8.27				
4,000	2,165	1,718	2.28	1,964	3.30	2,189	4.39	2,395	5.54	2,585	6.72	2,762	7.95	2,928	9.21				
4,400	2,382	1,841	2.81	2,069	3.91	2,282	5.08	2,479	6.3	2,663	7.57	2,835	8.88						
4,800	2,598	1,966	3.44	2,180	4.61	2,381	5.86	2,569	7.16	2,746	8.51	2,913	9.21						
5,200	2,815	2,095	4.16	2,295	5.41	2,484	6.74	2,664	8.12	2,834	9.55								
5,600	3,032	2,226	4.99	2,413	6.32	2,592	7.72	2,763	9.18	2,927	10.69								
6,000	3,248	2,359	5.93	2,534	7.34	2,704	8.82	2,867	10.36										
6,500	3,519	2,527	7.28	2,690	8.79	2,849	10.37												
7,000	3,789	2,696	8.84	2,849	10.45														
7,500	4,060	2,868	10.62																

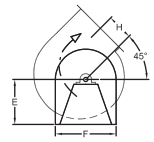
Performance shown is for installation type D - Ducted inlet, Ducted outlet.
Power rating BHP does not include drive losses.
Performance ratings do not include the effects of appurtenances in the airstream.

CECO ENVIRONMENTAL

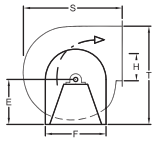
CECO HEE-Duall



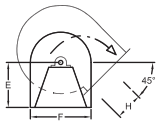
☐ CLOCKWISE UP BLAST CW 360



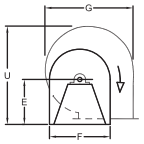
☐ CLOCKWISE TOP ANGULAR UP CW 45



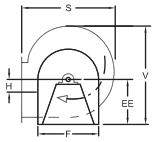
☐ CLOCKWISE TOP HORIZONTAL CW 90



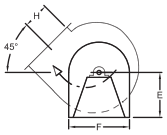
☐ CLOCKWISE TOP ANGULAR DOWN CW 135



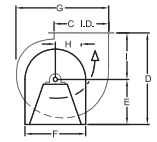
☐ CLOCKWISE DOWN BLAST CW 180



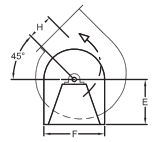
☐ CLOCKWISE BOTTOM HORIZONTAL CW 270



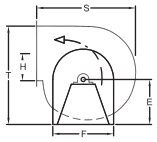
☐ CLOCKWISE BOTTOM ANGULAR UP CW 315



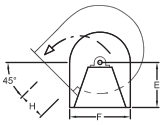
☐ COUNTER CLOCKWISE UP BLAST CCW 360



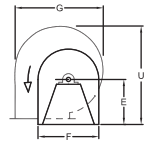
☐ COUNTER CLOCKWISE TOP ANGULAR UP CCW 45



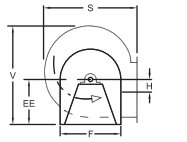
☐ COUNTER CLOCKWISE TOP HORIZONTAL CCW 90



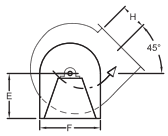
☐ COUNTER CLOCKWISE TOP ANGULAR DOWN CCW 135



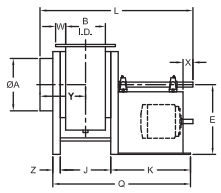
☐ COUNTER CLOCKWISE DOWN BLAST CCW 180



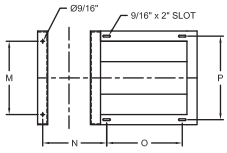
☐ COUNTER CLOCKWISE BOTTOM HORIZONTAL CCW 270



☐ COUNTER CLOCKWISE BOTTOM ANGULAR UP CCW 315

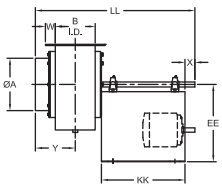


ELEVATION VIEW

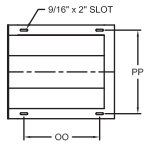


MOUNTING HOLE LOCATIONS

☐ HEAVY DUTY FRAME
ARRANGEMENT 1 & 9



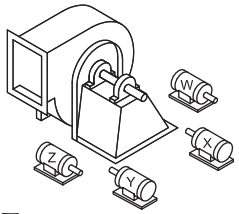
ELEVATION VIEW



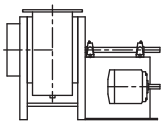
MOUNTING HOLE LOCATIONS

☐ STANDARD DUTY FRAME
ARRANGEMENT 9 & 10

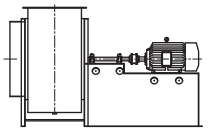
HPC	I.D.	O.D.	B	C	D	E/EE	F	G	H	I	J	K	KK	L	LL	M	N	O	OO	P	PP	Q	S	T	U	V	W	X	Y	Z	FAN WGT.	SHAFT SIZE CLASS I-II	SHAFT SIZE CLASS III
1050	10 5/8	10 7/8	8	11 3/4	22 1/16	14 15 1/2"	13 1/4	19 1/8	5 3/8	8 1/16	10 1/8	16	16 3/4	30 5/8	32	9 1/4	13 1/2	10	13	11 3/4	14 3/4	27 5/8	17 3/16	25 1/4	23 1/8	23 7/8	2	2	9 1/8	1 1/2	155	1"	1 7/16"
1225	13	13 1/4	9 1/2	12 1/2	23 7/8	13 3/4 15 3/4"	16 1/2	22 1/4	5 3/4	10 1/8	11 5/8	17 1/2	16 3/4	34 7/16	34 1/8	12 1/2	15	11 1/2	13	15	14 3/4	30 5/8	20 3/8	25 3/4	24	25 3/4	2	2 3/4	9 7/8	1 1/2	185	1 3/16"	1 7/16"
1500	16	16 1/4	12	15 3/4	29 3/8	17 3/8	20 1/4	26 1/4	7 1/8	12	14 1/8	18 1/2	18	38 11/16	38 7/8	16 1/4	17 1/2	12 1/2	14	18 3/4	19 1/2	34 1/8	25 1/4	32 5/8	30 5/8	31	2	3 1/2	11 1/8	1 1/2	245	1 3/16"	1 11/16"
1825	20 1/8	20 3/8	14	19	34 3/8	20 1/2	24	32	8 1/4	13 7/8	16 3/8	20 3/4	19	44 3/16	44 5/8	19 7/8	20	14 1/2	15	22 1/2	22 3/4	38 5/8	29 5/8	38 1/2	36 1/4	37	2	3 1/2	13 1/4	1 1/2	350	1 7/16"	1 11/16"



☐ ARRANGEMENT 1 FAN



☐ ARRANGEMENT 9 FAN



CONSULT FACTORY FOR DIMENSIONS

☐ ARRANGEMENT 8 FAN

HEE-Duall

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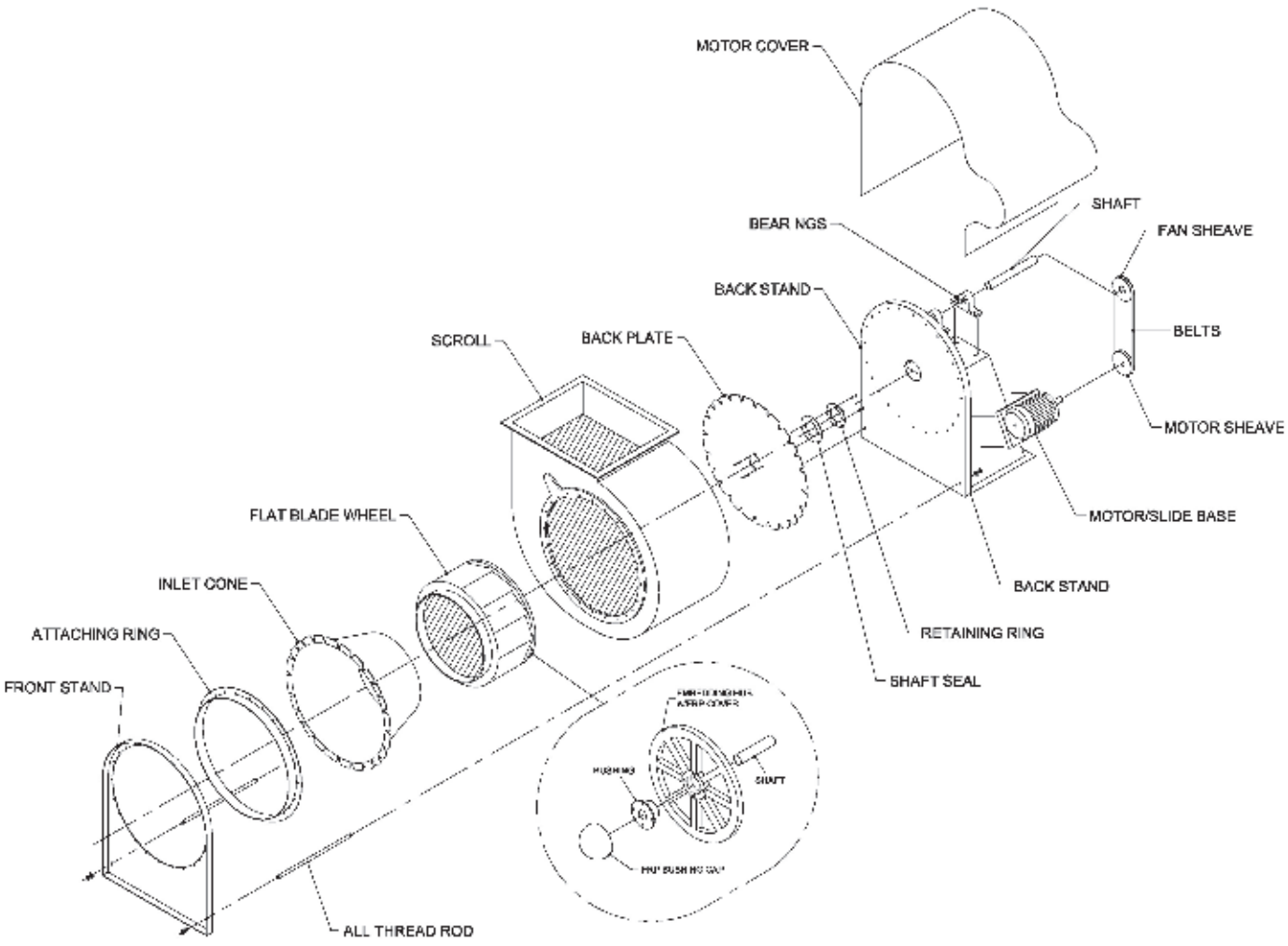
HPC SERIES FRP FAN

PROJ.: | DWG: | SHT OF

DECEMBER 2017

EXPLODED DRAWING:

HPC CENTRIFUGAL FAN ARRANGEMENT 9 (BELT DRIVEN)



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