CPF series

CENTRIFUGAL PLUG FAN

engineering data
and specifications

CINCINNATI FAN

Since the founding of Cincinnati Fan in 1956, the company's mission has been to provide quality products at competitive prices, backed by depend-able service.

This mission is carried out by specializing in the market for industrial air handling products up to 125 hp. But specialization does not mean the product line is small. Cincinnati Fan offers a wide variety of standard and customized products, production flexibility, and customer responsiveness.

CINCINNATI FAN PROVIDES

- Technical evaluation for correct performance conditions
- Review of air stream and ambient conditions that require special attention
- Selection of proper components to meet required design specifications
- Selection of proper accessories
- System analysis for proper fan design

Cincinnati Fan operates in a modern facility specifically designed for world class manufacturing enabling us to build standard products to order, including accessories, and ship within 5 to 10 working days.

With support like this, you can be sure your Cincinnati Fan product will be well-built and will provide maximum dependability and longevity.

Cincinnati Fan has over 170 experienced sales engineers across the US and Canada ready to serve your air handling needs.

CPF SERIES SPECIFICATIONS

Centrifugal plug fans shall be Cincinnati CPF Series, Size _____, Arrangement _____, Class _____.

Capacity: _____CFM,_____ Static Pressure at standard conditions.

Operating conditions: _____°F, _____ feet altitude

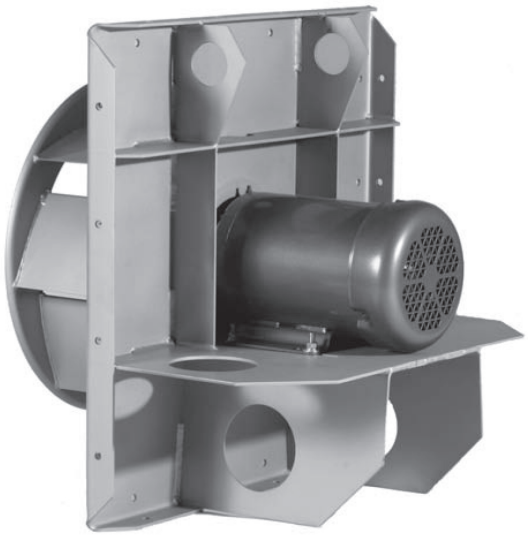
Backward inclined wheels shall have welded blades designed to meet AMCA Class _____ conditions.

Construction gauges shall be: _____ gauge shroud, _____ gauge backplate, _____ gauge blades (see page 20 for correct gauges for each class). Wheels shall be dynamically balanced to assure smooth operation. Shafts shall be turned, ground and polished steel (or stainless steel). All fans shall be test run at the factory before shipping.

All bearings shall be grease-lubricated, heavy-duty, self-aligning ball bearings in cast iron pillow blocks. Bearings shall be selected for optimal performance depending on fan size and class with an L_{10} life of 30,000 hours minimum. V-belt drive shall be selected for a minimum of 1.3 times nominal horsepower.

(All parts in contact with airstream shall be standard steel or stainless steel as specified.)

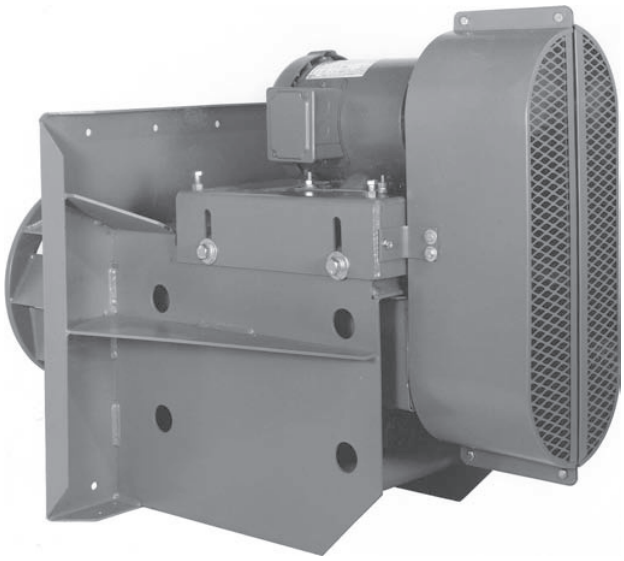
Before painting, all steel shall be cleaned by detergent wash, phosphatized and painted with machine gray enamel.



ARRANGEMENT 4 (Direct Drive)

- Motor mounted on motor base
- Wheel mounted on motor shaft
- Maximum temperature 200ºF

See other arrangements for higher temperatures



ARRANGEMENT 9 (Belt Drive)

- Motor mounted on adjustable base over the fan shaft
- Wheel mounted on fan shaft with two pillow block bearings
- Maximum temperature of standard design is 300˚F
- High temperature fans are available up to 800˚F
- Shown with belt guard

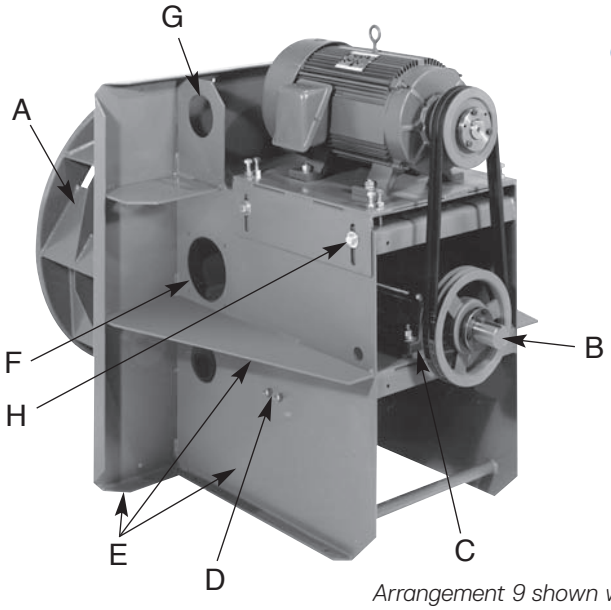
STANDARD INLET BELL

Designed for smooth air entrance into the wheel for maximum efficiency.

INSULATION PLUG BOX OPTION

Required for 450ºF to 800ºF Arrangement 9 only. May be furnished by the customer.

Plug box is available in 2", 3", 4", 5" or 6" depths.



Arrangement 9 shown with belt guard removed

CPF SERIES FEATURES

A - Backward inclined blades are fabricated of heavy gauge, high-strength steel to assure long lasting, efficient operation.

B - Turned, ground and polished shafting assures smooth operation.

C - Heavy-duty, self-aligning, relubricatable ball bearings in cast-iron pillow blocks. Bearings are selected for optimal performance depending on fan size and class with an L_{10} life of 30,000 hours minimum

D - Extended grease fittings for easy lubrication of fan bearings.

E - Panel and base construction with internal and external supports to maximize rigidity and assure long equipment life.

F - Inboard bearing access hole.

G - Multiple lifting points for easy installation of fan onto customer's equipment.

H - Heavy duty motor support base with four point adjustability for proper belt tension and alignment.

HIGH TEMPERATURE CONSTRUCTION

Standard Construction:	Arrangement 4 is suitable to 200°F. See page 6. Arrangement 9 is suitable to 300°F. See page 7.
301° to 450°F. Construction:	Arrangement 9 only. Standard fan with heat slinger, teflon shaft seal and high temperature aluminum paint. See page 9.
451° to 800°F Construction:	Arrangement 9 only. Standard fan with heat slinger, high temperature shaft seal, high temperature bearings and high temperature aluminum paint. Insulation material is required and may be provided by the customer or as an option, by Cincinnati Fan. See page 8.
-40° to -21°F. Construction:	Fan must be aluminum construction. Select AMCA A for wheel, housing and inlet bell. Motor considerations for low temp grease, bearings and heaters are recommended."

Note—See speed reduction chart for plug thickness on page 5.

Temperature Range °F	Maximum RPM Reduction Factor†
Up to 175°	0%
176° - 200°	2%
201° - 300°	4%
301° - 400°	7%
401° - 500°	11%
501° - 600°	15%
601° - 700°	20%
701° - 800°	30%

† Steel wheels only

TEMPERATURE - ALTITUDE ADJUSTMENT

Air Temperature °F	Altitude in Feet Above Sea Level										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
0°	0.87	0.91	0.94	0.98	1.01	1.05	1.09	1.13	1.17	1.22	1.26
40°	0.94	0.98	1.02	1.06	1.10	1.14	1.19	1 23	1.28	1.32	1.36
70°	1.00	1.04	1.08	1.12	1.16	1.20	1.25	1.30	1.35	1.40	1.45
80°	1.02	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48
100°	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48	1.54
120°	1.09	1.14	1.18	1.23	1.28	1.32	1.38	1.43	1.48	1.53	1.58
140°	1.13	1.18	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.58	1.65
160°	1.17	1.22	1.26	1.31	1.36	1.42	1.47	1.53	1.59	1.64	1.70
180°	1.21	1.26	1.30	1.36	1.41	1.46	1.52	1.58	1.64	1.70	1.75
200°	1.25	1.29	1.34	1.40	1.45	1.51	1.57	1.63	1.69	1.75	1.81
250°	1.34	1.39	1.45	1.50	1.56	1.62	1.68	1.74	1.82	1.88	1.94
300°	1.43	1.49	1.55	1.61	1.67	1.74	1.80	1.87	1.94	2.00	2.08
350°	1.53	1.59	1.65	1.72	1.78	1.85	1.92	2.00	2.07	2.14	2.22
400°	1.62	1.69	1.75	1.82	1.89	1.96	2.04	2.12	2.20	2.27	2.35
450°	1.72	1.79	1.86	1.93	2.00	2.08	2.16	2.24	2.33	2.41	2.50
500°	1.81	1.88	1.96	2.03	2.11	2.19	2.28	2.36	2.46	2.54	2.62
550°	1.91	1.98	2.06	2.14	2.22	2.30	2.40	2.49	2.58	2.68	2.77
600°	2.00	2.08	2.16	2.24	2.33	2.42	2.50	2.61	2.71	2.80	2.90
650°	2.10	2.18	2.26	2.35	2.44	2.54	2.63	2.74	2.84	2.94	3.04
700°	2.19	2.27	2.36	2.46	2.55	2.65	2.75	2.86	2.97	3.06	3.18
750°	2.28	2.37	2.47	2.56	2.66	2.76	2.87	2.98	3.10	3.19	3.31
800°	2.38	2.48	2.57	2.66	2.76	2.86	2.98	3.10	3.21	3.33	3.45

Fan performance tables are developed using standard air which is 70°F, 29.92" barometric pressure and .075 lb/ft^2 per cubic foot. Density changes resulting from temperature or barometric pressure variations (such as higher altitudes) must be corrected to standard conditions before selecting a fan based on standard performance data. Temperature and/or altitude conversion factors are used in making corrections to standard conditions.

EXAMPLE: Select a belt driven CPF fan to deliver 4500 CFM at .50" SP at 200°F, and 7000' altitude.

Step 1 - From the table, conversion factor is 1.63.

Step 2 - Correct static pressure is:

1.63 x .50" SP = .81" SP at standard conditions.

Step 3 - Check CPF catalog for 4500 CFM at .81" SP. We select a belt driven CPF-150 and interpolation gives 2650 RPM and 3.15 bhp.

Step 4 - Correct the bhp for the lighter air:

3.15 ÷ 1.63 = 1.93 bhp.

A 2 hp motor will suffice at 200°F, and 7000' but not at standard conditions. Special motor insulation may be required due to altitude.

SPARK-RESISTANT CONSTRUCTION

Type A: Not available.

Type B: Fabricated aluminum wheel and aluminum rubbing ring on motor shaft or fan shaft. Maximum temperature 200°F.

Type C: Consists of aluminum inlet bell and aluminum plate on drive side of the fan. Maximum Temperature is 800°F.

⚠ **Caution— All fans and blowers shown have rotating parts and pinch points. Severe personal injury can result if operated without guards. Stay away from rotating equipment unless it is disconnected from its power source. Read and understand operating instructions.**

⚠ **WARNING**

The use of aluminum or aluminum alloys in the presence of steel which has been allowed to rust requires special consideration. Research by the U.S. Bureau of Mines and others has shown that aluminum impellers rubbing on rusty steel may cause high intensity sparking.

The use of the above Standard in no way implies a guarantee of safety for any level of spark resistance. Spark-resistant construction also does not protect against ignition of explosive gases caused by catastrophic failure or from any airstream material that may be present in a system.

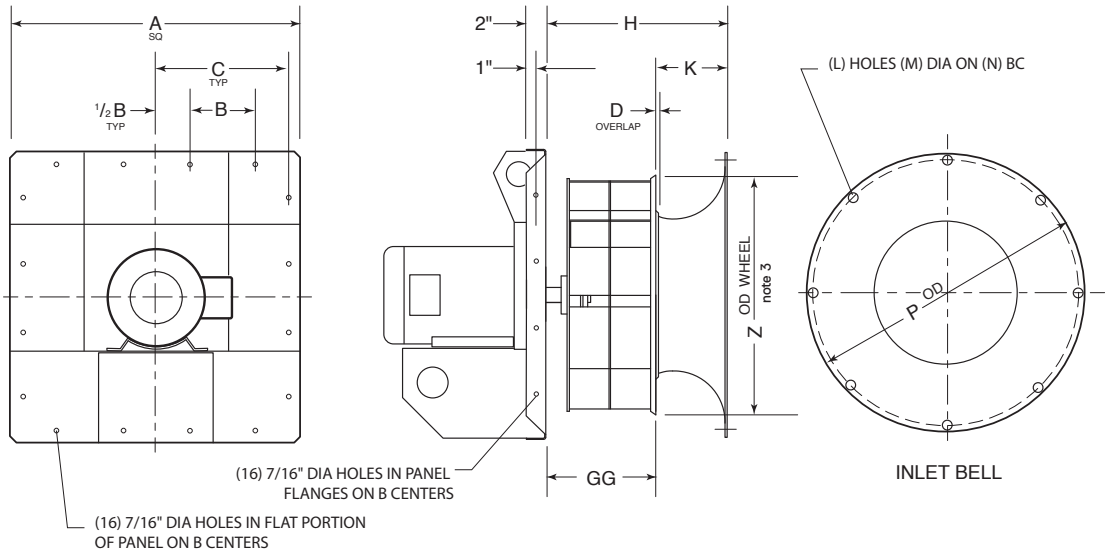
MAXIMUM SHAFT and BEARING SPEEDS FOR BELT DRIVEN FANS
MAXIMUM WHEEL SPEEDS and WR2 (lb-ft2) FOR DIRECT DRIVE FANS

Fan Size	Maximum Shaft and Bearing Speeds for Stand **G** Overhang of 2" note 1		Maximum Safe Shaft Speed with Extended Shaft Overhang of **R** note 1 - note 2					HDBI Type Steel Wheel Maximum RPM note 3			SQBI Type Steel Wheel Maximum RPM note 3		Aluminum Wheel Maximum RPM note 4
	Class II	Class III	R = 2"	R = 3"	R = 4"	R = 5"	R = 6"	Class II	Class III	Class IV	Class II	Class III	
120	4189	4985	4700	4330	3820	3750	3300	4380	5400		4065	5000	5400
130	3834	4738	4500	4280	3910	3580	3230	3900		4999	3750	4700	4999
150	3513	4357	4220	3910	3790	3340	3000	3513		4712	3050	4117	4712
160	3195	3961	3700	3420	3050	2800	2600	3195		4285	3042	3724	4285
180	2903	3591	3720	3430	3120	2880	2680	2903		3885	2593	2600	3885
200	2661	3285	3400	3190	2800	2600	2400	2661		3574	2380	3550	3574
220	2304	2824	3200	2970	2660	2400	2200	2304		3550	2115	3160	3550
240	2132	2565	2600	2550	2450	2300	2150	2132		2837		2740	2837
270	1854	2262	2300	2200	2130	2050	1930			2476		2403	2476
300	1660	2075	2000	2000	1950	1780	1600			2300		2243	2300

Note – G and R in above table refers to dimensions shown on pages 6, 7 and 8. **R** dimension refers to dimensions shown on page 8.

1 All maximum shaft speeds are independent of temperature.
2 All plug fans with overhung shafts (**R** dimension) include the highest class of wheel construction for each fan size.
3 For steel wheels up to 175°f (80°C). At elevated temperatures the maximum wheel speed must be derated per the high temperature deration factors on page 4. In some cases, the derated maximum wheel speed may be lower than the maximum safe shaft speed for shaft overhang R. In those cases the lower of the two speeds prevails.
4 For aluminum wheels up to 200°F (93°C). All aluminum wheels are HDBI type Class IV construction.

ARRANGEMENT 4 — DIRECT DRIVE note 1



Model	Motor Frame	A	B	C	D	GG	H	K	L	M	N	P	Z
CPF-120	142T-184T	22"	5"	9 3/4"	1/8"	5 11/16"	9 3/8"	3 11/16"	8	11/16"	14 3/8"	15 3/8"	12 5/8"
CPF-130	142T-215T	22"	5"	9 3/4"	1/8"	6 11/32"	10 3/8"	4 1/32"	8	11/16"	15 15/16"	17"	13 7/8"
CPF-150	142T-215T	22"	5"	9 3/4"	5/16"	7 1/32"	11 3/8"	4 15/32"	8	3/4"	17 1/2"	18 5/8"	15 3/8"
CPF-160	142T-256T	22"	5"	9 3/4"	5/16"	7 11/16"	12 1/2"	4 15/16"	8	3/4"	19 3/8"	20 1/2"	16 7/8"
CPF-180	142T-324T	28 1/2"	6 1/2"	13"	5/16"	8 17/32"	13 7/8"	5 15/32"	8	3/4"	21 1/2"	22 5/88"	18 11/16"
CPF-200	182T-364TS	28 1/2"	6 1/2"	13"	5/16"	9 9/32"	15 1/4"	6 1/32"	8	7/8"	23 1/2"	24 3/4"	20 1/2"
CPF-220	182T-324T	28 1/2"	6 1/2"	13"	5/16"	10 1/4"	16 7/8"	6 11/16"	8	7/8"	26 1/8"	27 3/8"	22 13/16"
CPF-240	213T-286T	38"	9"	17 3/4"	3/8"	11 9/32"	18 9/16"	7 11/32"	16	7/8"	28 3/4"	30"	25"
CPF-270	213T-286T	38"	9"	17 3/4"	7/16"	12 13/32"	20 7/16"	8 31/32"	16	1"	31 5/8"	33"	27 5/8"
CPF-300	213T-324T	38"	9"	17 3/4"	1/2"	13 7/8"	22 3/4"	9"	16	1"	35 1/4"	36 5/8"	30 3/4"

1 Maximum temperature 200°F.
2 Standard machine tool gray paint.
3 Customer installation of fan assembly requires an opening larger than the wheel shroud OD, reference dimension Z.

Construction Gauge

Size	Panel and Base	Inlet Bell	Wheel			
			Shroud	Blades	Back Plate	Reinf. Plate
120	7	16	12	10	7	10
130	7	16	12	10	7	10
150	7	16	12	10	7	10
160	7	16	12	10	7	10
180	7	16	12	7 or 10	7	10
200	7	16	12	7	7	10
220	7	16	12	7	7	10
240	7	14	11	7	7	10
270	7	14	11	7	1/4"	1/4"
300	7*	14	11	7	1/4"	1/4"

* 1/4" for 324T frame motors

Note—There are construction classes for standard plug fans without extended shafts (i.e. Class II and III). There are no construction classes for plug fans with extended shafts.

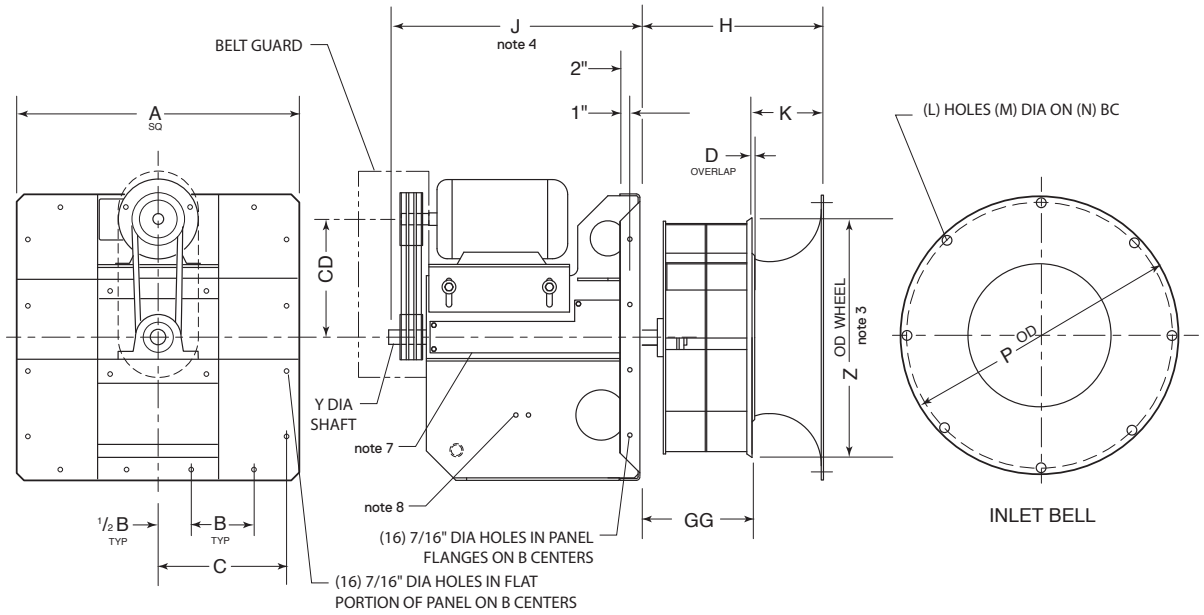
Approximate Shipping Weight Less Motor lb

Size	Arrangement 4		Arrangement 9		Standard Insulation Plug Box †
	Class II	Class III	Class II	Class III	
120	106	106	289	289	31
130	111	111	293	298	31
150	117	117	299	303	31
160	124	128	302	308	31
180	172	177	450	466	44
200	182	188	462	469	44
220	198	205	475	481	44
240	337	344	601	607	70
270	351	394	621	652	70
300	389	416	656	672	70

† Insulation material not provided

ARRANGEMENT 9 — BELT DRIVE

STANDARD CONSTRUCTION OR 301°-450°F CONSTRUCTION, BOTH WITHOUT EXTENDED SHAFT - note 1



Model	Motor Frame	A	B	C	D	GG	H	J	Y		Z
									Class II	Class III	
CPF-120	56-216T	22"	5"	9 3/4"	1/8"	5 11/16"	9 3/8"	25"	1 3/16"	1 3/16"	12 5/8"
CPF-130	56-216T	22"	5"	9 3/4"	1/8"	6 11/32"	10 3/8"	25"	1 3/16"	1 7/16"	13 7/8"
CPF-150	56-216T	22"	5"	9 3/4"	5/16"	7 1/32"	11 3/8"	25"	1 7/16"	1 11/16"	15 3/8"
CPF-160	56-216T	22"	5"	9 3/4"	5/16"	7 11/16"	12 1/2"	25"	1 7/16"	1 11/16"	16 7/8"
CPF-180	56-286T	28 1/2"	6 1/2"	13"	5/16"	8 17/32"	13 7/8"	25"	1 7/16"	1 11/16"	18 11/16"
CPF-200	143T-286T	28 1/2"	6 1/2"	13"	5/16"	9 9/32"	15 1/4"	25"	1 7/16"	1 15/16"	20 1/2"
CPF-220	143T-286T	28 1/2"	6 1/2"	13"	5/16"	10 1/4"	16 7/8"	26"	1 7/16"	1 15/16"	22 13/16"
CPF-240	143T-286T	38"	9"	17 3/4"	3/8"	11 9/32"	18 9/16"	27"	1 11/16"	2 3/16"	25"
CPF-270	143T-324T	38"	9"	17 3/4"	7/16"	12 13/32"	20 7/16"	27"	1 11/16"	2 3/16"	27 5/8"
CPF-300	143T-324T	38"	9"	17 3/4"	1/2"	13 7/8"	22 3/4"	27"	1 11/16"	2 7/16"	30 3/4"

Model	K	L	M	N	P
CPF-120	22"	8	11/16"	14 3/8"	15 3/8"
CPF-130	22"	8	11/16"	15 15/16"	17"
CPF-150	22"	8	3/4"	17 1/2"	18 5/8"
CPF-160	22"	8	3/4"	19 3/8"	20 1/2"
CPF-180	28 1/2"	8	3/4"	21 1/2"	22 5/88"
CPF-200	28 1/2"	8	7/8"	23 1/2"	24 3/4"
CPF-220	28 1/2"	8	7/8"	26 1/8"	27 3/8"
CPF-240	38"	16	7/8"	28 3/4"	30"
CPF-270	38"	16	1"	31 5/8"	33"
CPF-300	38"	16	1"	35 1/4"	36 5/8"

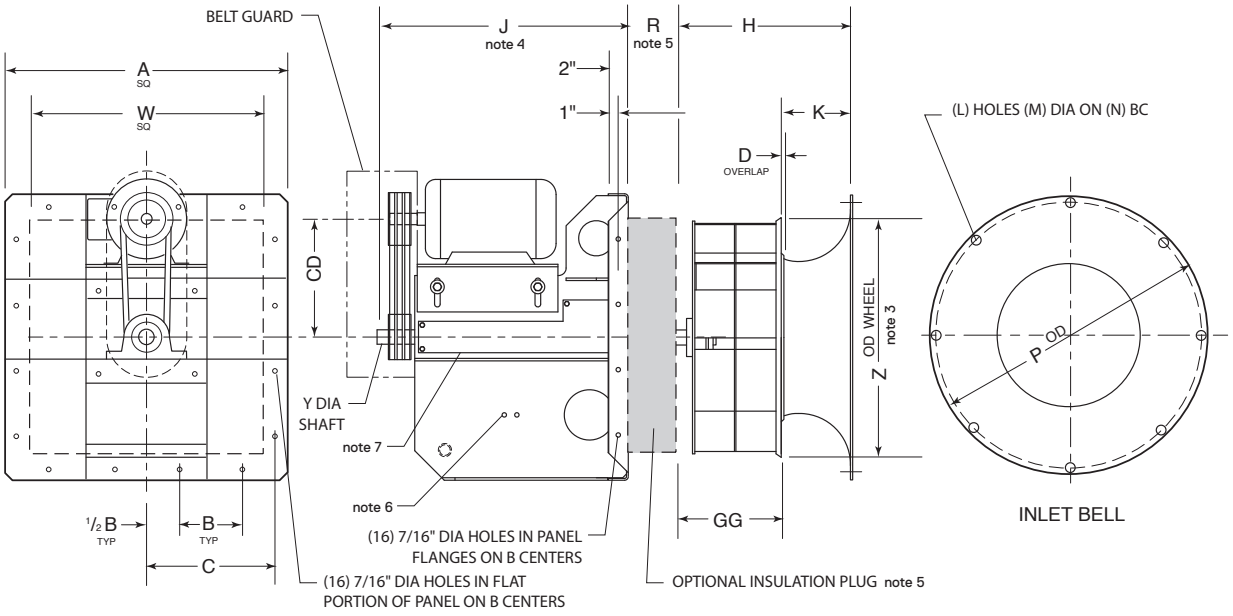
Motor Frame	Center Distance	
	Minimum	Maximum
56 to 145T	10 3/4"	12 1/4"
182T-184T	11 3/4"	13 1/4"
213T-215T	12 1/2"	14"
254T-256T	16 1/2"	18 5/8"
284T-286T	17 1/4"	19 3/8"
324T	18 1/4"	20

1 Maximum temperature for standard construction is 300°F. For 301° to 450°F construction, see note 5.
2 Standard machine tool gray paint, see note 5.
3 Customer installation of fan assembly requires an opening larger than the wheel shroud OD, reference dimension Z.
4 J dimension shown is for 56 to 215T frame motors. Add 6" for 254T to 286T frame motors, 8" for 324T frame motors.
5 Includes heat slinger, teflon shaft seal and high temperature aluminum paint on 301°-450°F construction only.
6 Extended lube lines.
7 Bearing access cover (expanded metal construction).

ARRANGEMENT 9 — BELT DRIVE

A - 451° - 800°F CONSTRUCTION - note 1

B - STANDARD TEMPERATURE OR 301° - 450°F CONSTRUCTION, BOTH WITH EXTENDED SHAFT - note 2



Model	Motor Frame	A	B	C	D	GG	H	J	Y		Z
									Class II	Class III	
CPAF-120	56-216T	22"	5"	9 3/4"	1/8"	5 11/16"	9 3/8"	25"	1 3/16"	1 3/16"	12 5/8"
CPAF-130	56-216T	22"	5"	9 3/4"	1/8"	6 11/32"	10 3/8"	25"	1 3/16"	1 7/16"	13 7/8"
CPAF-150	56-216T	22"	5"	9 3/4"	5/16"	7 1/32"	11 3/8"	25"	1 7/16"	1 11/16"	15 3/8"
CPAF-160	56-216T	22"	5"	9 3/4"	5/16"	7 11/16"	12 1/2"	25"	1 7/16"	1 11/16"	16 7/8"
CPAF-180	56-286T	28 1/2"	6 1/2"	13"	5/16"	8 17/32"	13 7/8"	25"	1 7/16"	1 11/16"	18 11/16"
CPAF-200	143T-286T	28 1/2"	6 1/2"	13"	5/16"	9 9/32"	15 1/4"	25"	1 7/16"	1 15/16"	20 1/2"
CPAF-220	143T-286T	28 1/2"	6 1/2"	13"	5/16"	10 1/4"	16 7/8"	26"	1 7/16"	1 15/16"	22 13/16"
CPAF-240	143T-286T	38"	9"	17 3/4"	3/8"	11 9/32"	18 9/16"	27"	1 11/16"	2 3/16"	25"
CPAF-270	143T-324T	38"	9"	17 3/4"	7/16"	12 13/32"	20 7/16"	27"	1 11/16"	2 3/16"	27 5/8"
CPAF-300	143T-324T	38"	9"	17 3/4"	1/2"	13 7/8"	22 3/4"	27"	1 11/16"	2 7/16"	30 3/4"

Model	K	L	M	N	P	W
CPAF-120	22"	8	11/16"	14 3/8"	15 3/8"	17"
CPAF-130	22"	8	11/16"	15 15/16"	17"	17"
CPAF-150	22"	8	3/4"	17 1/2"	18 5/8"	17"
CPAF-160	22"	8	3/4"	19 3/8"	20 1/2"	17"
CPAF-180	28 1/2"	8	3/4"	21 1/2"	22 5/88"	23"
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CPAF-220	28 1/2"	8	7/8"	26 1/8"	27 3/8"	23"
CPAF-240	38"	16	7/8"	28 3/4"	30"	32"
CPAF-270	38"	16	1"	31 5/8"	33"	32"
CPAF-300	38"	16	1"	35 1/4"	36 5/8"	32"

Motor Frame	Center Distance	
	Minimum	Maximum
56 to 145T	10 3/4"	12 1/4"
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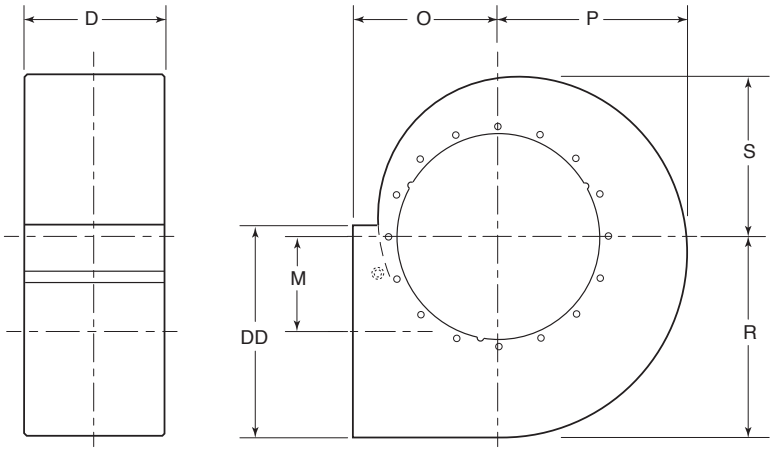
254T-256T	16 1/2"	18 5/8"
284T-286T	17 1/4"	19 3/8"
324T	18 1/4"	20

1 Temperature range 451° to 800°F includes heat slinger, ceramic fiber shaft seal, high temperature aluminum paint and high temperature bearings.
2 Standard construction up to 300°F is painted machine tool gray. 301°F to 450°F construction includes heat slinger, teflon shaft seal and high temperature aluminum paint.
3 Installation of fan assembly requires an opening larger than wheel shroud O.D., reference dimension Z.
4 J dimension shown is for 56 to 215T frame motors. Add 6" for 254T to 286T frame motors.
5 Optional additional shaft lengths R:
❑ 2" ❑ 3" ❑ 4" ❑ 5" ❑ 6"
❑ with plug and insulation by Cincinnati Fan.
6 Extended lube lines.
7 Bearing access cover (expanded metal construction).

OPTIONAL HOUSING



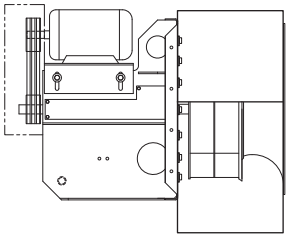
DRIVE SIDE

Clockwise rotation shown
Counterclockwise is opposite

Model	D	M	O	P	R	S	DD
CPAF-120	9 3/16"	6 3/16"	9 15/16"	12 3/8"	13"	10 3/8"	13 3/4"
CPAF-130	10 3/8"	6 13/16"	10 13/16"	13 3/4"	14 7/16"	11 9/16"	15 1/4"
CPAF-150	11 3/8"	7 9/16"	11 3/4"	15 3/16"	15 15/16"	12 3/4"	16 13/16"
CPAF-160	12 1/2"	8 5/16"	12 11/16"	16 11/16"	17 1/2"	14"	18 7/16"
CPAF-180	13 7/8"	9 1/4"	13 13/16"	18 7/16"	19 7/16"	15 1/2"	20 3/8"
CPAF-200	15 1/4"	10 1/16"	14 15/16"	20 1/4"	21 1/4"	17"	22 3/8"
CPAF-220	16 7/8"	11 3/16"	16 3/8"	22 1/2"	23 5/8"	18 7/8"	24 7/8"
CPAF-240	16 9/16"	12 5/16"	18 13/16"	24 3/4"	26"	20 3/4"	27 3/8"
CPAF-270	20 7/16"	13 9/16"	20 7/16"	27 1/4"	28 5/8"	22 7/8"	30 1/16"
CPAF-300	22 3/4"	15 1/8"	22 7/16"	30 3/8"	31 7/8"	25 1/2"	33 9/16"

HOUSING MOUNTING TYPES

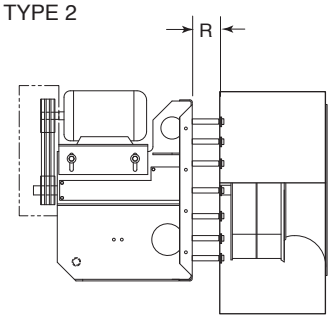
TYPE 1



TYPE 1: Housing bolts directly to plug fan front plate. Hardware supplied by Cincinnati Fan.

Arrangement 4 or 9.

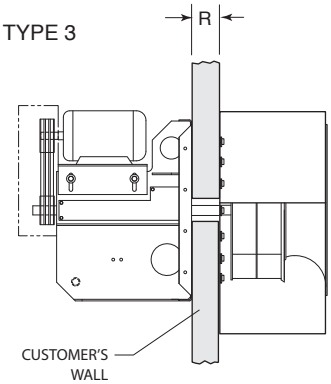
TYPE 2



TYPE 2: Housing bolts through spacers to plug fan front plate. Specify the R dimension for the spacers on your order per note 5 on page 8. Hardware supplied by Cincinnati Fan.

Arrangement 9 only.

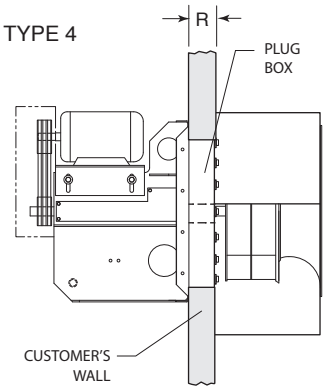
TYPE 3



TYPE 3: Housing bolts through customer's wall into plug fan front plate. Specify R dimension for customer's wall, on your order, per note 5 on page 8. Hardware supplied by customer.

Arrangement 9 only.

TYPE 4



TYPE 4: Housing bolts to front of plug box. Specify R dimension for plug box, on your order, per note 5 on page 8. Hardware supplied by Cincinnati Fan.

Arrangement 9 only.

CPAF series

ENGINEERING DATA

SPX ENGINEERED AIR MOVEMENT
7697 SNIDER ROAD
MASON, OH 45040 USA
513 573 1000 | **spxairmovement**.com

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