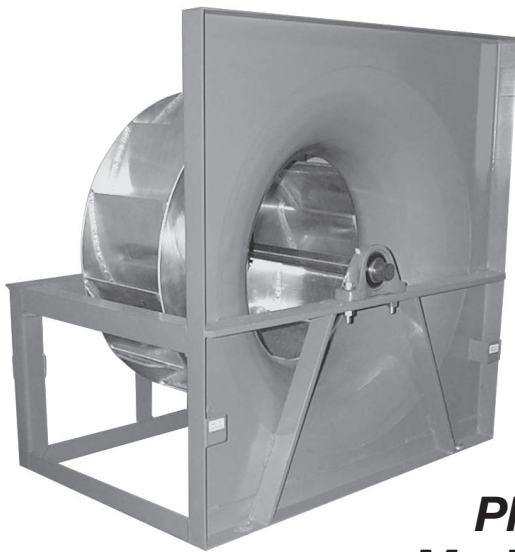
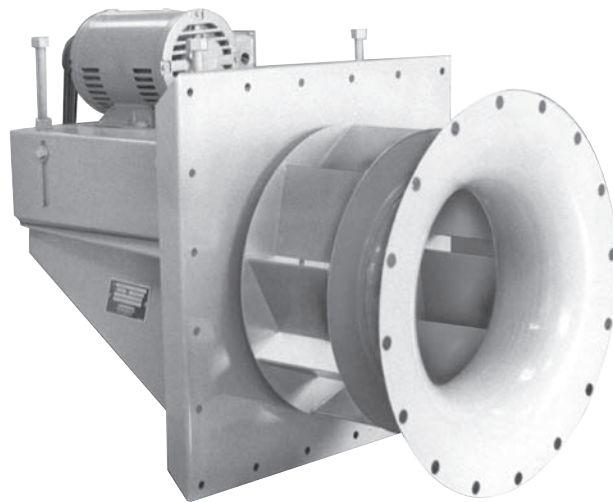


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## ***PLENUM & PLUG FANS***



***Plenum Fans  
Model CPN-BIA***



***Plug Fans  
Models CPF-BIA & CPF-BI***

# Plenum Fans – CPN-BIA

The Aerovent Plenum Fan features a BIA-Backward Inclined Airfoil wheel in sizes 12" through 79".

Plenum fans are used in field-fabricated or factory-built air handling units to pressurize the entire surrounding air plenum. This allows discharge ductwork to be directly connected to the air handler from any direction. The plenum fan design also saves space by eliminating the fan housing, transitions and diffusers within the air handling unit.

## BIA Wheel

- Non-overloading airfoil wheels on all sizes.
- Aluminum wheel using extruded aluminum blades are standard to size 25 and available as an option on larger sizes. Steel wheel is standard on larger sizes.
- Aluminum wheels using extruded aluminum blades are standard to size 63 on direct drive arrangement 4T fans, a popular choice for applications requiring precision balance and improved reliability.

## Inlet Cones

Heavy-gauge spun steel inlet cones are closely matched to the wheel intake rim to insure efficient and quiet operation.

## Structural Frame

Frames are constructed of heavy-gauge steel continuously welded at all connections for maximum strength and rigidity. The "cross frame" bearing support is designed for maximum stability and load spreading.

## Shafts

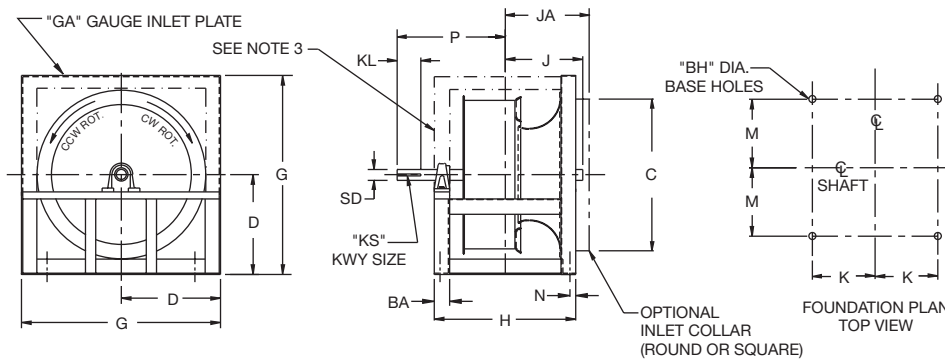
Shafts are AISI Grade 1040 or 1045 hot-rolled steel accurately turned, ground, polished and ring gauged for accuracy. Shafts are generously sized for a first critical speed of at least 1.43 times the maximum speed for the class.

## Bearings

Either ball or spherical roller, heavy duty, self-aligning, pillow block type bearings are provided. Bearing selection is based on L-10 minimum life of 40,000 hours or average life of 200,000 hours. Split roller bearings are optional on smaller horizontal shaft designs. Split roller bearings are not recommended on vertical applications.

For performance data please refer to the Aerovent Fan Selector Program.

# Dimensional Data – Arr. 3H (Arr. 1, 3F, 3HF, 3SM, 3V & 4T available)



- NOTES:**
1. Horizontal applications only.
  2. 'CW' rotation is standard, 'CCW' rotation is optional and is determined by viewing the end opposite the inlet.
  3. Optional protective enclosure.

SIZE	BA	BH	C		D	G	GA	H	J		JA	K	KL	KS		M	N	P		SD	
			DIA	SQ					CL I	CL II				CL I	CL II			CL I	CL II	CL I	CL II
12	1.50	0.44	14.38	18.25	10.00	20.00	12	13.88	7.88	7.88	8.56	6.31	2.50	.25 x .13	.25 x .13	7.38	0.63	12.00	12.00	1.000	1.000
14	2.00	0.44	16.19	19.25	11.00	22.00	12	16.00	8.94	8.94	9.63	7.13	3.00	.25 x .13	.25 x .13	8.25	0.88	13.44	13.44	1.000	1.187
16	2.00	0.44	18.13	21.25	12.00	24.00	12	17.25	9.56	9.56	10.25	7.63	3.00	.25 x .13	.25 x .13	8.75	0.88	14.06	14.06	1.000	1.187
18	2.00	0.44	20.13	22.25	13.00	26.00	12	18.50	10.88	11.00	10.88	8.38	3.50	.25 x .13	.38 x .19	9.63	0.88	15.63	15.88	1.187	1.437
20	2.00	0.56	22.44	25.25	14.50	29.00	12	19.75	11.69	11.69	11.50	9.00	3.50	.38 x .19	.38 x .19	10.63	0.88	16.56	16.56	1.437	1.437
22	2.00	0.56	25.25	28.25	16.00	32.00	10	21.50	12.56	12.56	12.38	9.88	4.00	.38 x .19	.38 x .19	11.75	0.88	17.94	17.94	1.437	1.437
25	2.00	0.56	28.38	30.25	17.00	34.00	10	23.25	12.81	12.81	13.25	10.75	4.50	.38 x .19	.38 x .19	12.88	0.88	19.38	19.38	1.437	1.687
28	2.00	0.56	31.94	34.25	19.00	38.00	10	25.25	13.75	13.75	14.31	11.75	4.50	.38 x .19	.38 x .19	14.13	0.88	20.38	20.38	1.437	1.687
32	2.50	0.56	35.88	41.25	23.00	46.00	10	31.00	16.50	17.50	17.69	14.38	5.00	.38 x .19	.50 x .25	17.38	1.13	23.31	23.81	1.687	2.187
35	2.50	0.56	39.81	46.25	25.50	51.00	7	33.75	18.63	19.19	19.13	15.75	5.00	.50 x .25	.63 x .31	18.88	1.13	24.88	25.56	1.937	2.437
39	3.00	0.81	44.56	50.25	28.00	56.00	7	37.75	20.06	20.63	20.63	17.50	5.00	.50 x .25	.63 x .31	20.88	1.38	26.38	27.06	1.937	2.437
44	3.00	0.81	49.69	56.25	31.00	62.00	7	41.00	22.31	22.88	22.75	19.13	5.50	.50 x .25	.63 x .31	22.88	1.38	29.38	30.00	2.187	2.687
49	3.00	0.81	55.56	62.25	34.00	68.00	7	44.50	24.06	24.56	24.50	20.88	5.50	.50 x .25	.63 x .31	25.38	1.38	31.06	31.75	2.187	2.687
55	4.00	0.81	63.56	68.25	38.00	76.00	7	50.75	26.69	26.56	26.63	23.50	6.00	.63 x .31	.75 x .38	27.63	1.88	34.38	34.31	2.687	2.937
63	4.00	0.81	71.44	76.25	42.00	84.00	7	55.25	29.25	29.88	29.88	25.75	6.00	.75 x .38	.88 x .44	30.63	1.88	37.06	37.75	2.937	3.437
71	4.00	0.81	79.25	84.25	46.00	92.00	7	60.00	32.81	33.06	33.25	28.13	7.00	.88 x .44	1.00 x .50	33.13	1.88	41.19	41.50	3.437	3.937
79	5.00	0.81	88.69	94.25	51.00	102.00	7	67.50	35.75	35.75	36.00	31.38	7.50	1.00 x .50	1.00 x .50	37.13	2.38	44.69	44.69	3.937	3.937

Dimensions are not to be used for construction.

# Plug Fans – CPF-BIA and CPF-BI

The Aerovent Plug Fan features a BI-Backward Inclined wheel for sizes 12" through 39" in an unhooused design, for temperatures up to 750°F. An optional BIA-Backward Inclined Airfoil wheel for sizes 25" through 39" is also available, for temperatures through 750°F. BIA-Backward Inclined airfoil wheel sizes 12" through 25" are available only up to 275°F and are manufactured of welded aluminum construction.

Plug fans are housed in the customer's enclosure for air circulation in the following applications:

Air Curtains	Dryers	Parts Washers
Air Heaters	Evaporators	Permanent Pleaters
Dust Collectors	Kilns	Smoke Houses
Degreasers	Ovens	Space Heaters

The Plug Fan's design offers efficient operation due to the BI and BIA wheels, while protecting the motor and drives from the high temperature applications via the mounting plate or 4" insulated plug.

Manufacturing the plug fan from heavy-gauge steel and using continuously welded construction ensures that the unit is ruggedly built for long lasting service.

## Wheel Designs

The **BI-Backward Inclined Wheel** design features flat blades manufactured in heavy-gauge steel, with each blade continuously welded to the front and back plates. Because of the

BI blade design and its welded construction, this unit operates efficiently, yet withstands many industrial applications.

The **BIA-Backward Inclined Airfoil Wheel** features double thickness hollow airfoil blades that offer higher operating efficiencies and lower noise levels. BIA Fan sizes 12" through 25" are available only up to 275°F and are manufactured of welded aluminum construction.

## 450°F Plug Fan Construction Features

For temperatures to 450°F, the Plug Fan includes:

- Fan Mounting Plate, pre-drilled (no plug required)
- **BI Wheels**, sizes 12" through 39" or **BIA Wheels**, sizes 25" through 39"
- Heat Slinger
- High Temp. Paint
- Inlet Cone
- Shaft and Bearings
- Arrangement #9, with or without motor and drive.

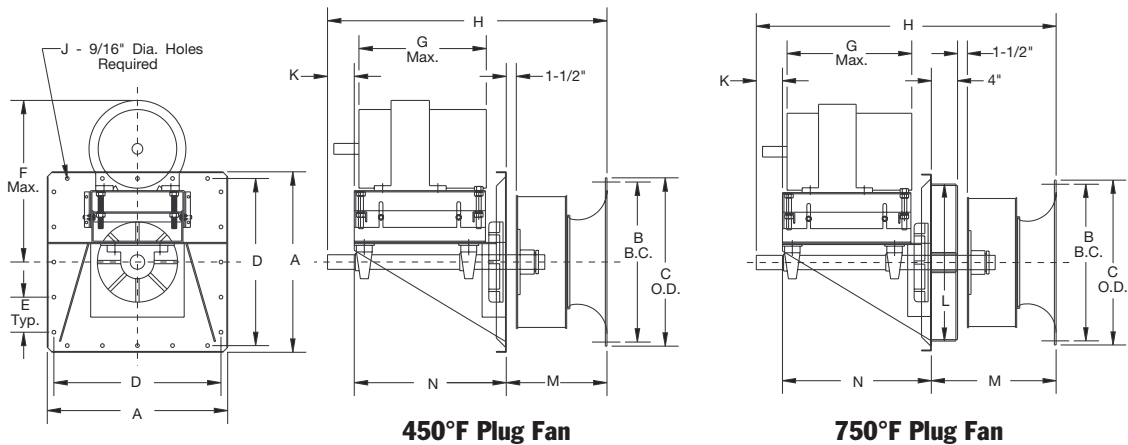
## 750°F Plug Fan Construction Features

For temperatures to 750°F, the Plug Fan includes:

- 4" Insulated Plug
- **BI Wheels**, sizes 12" through 39", or **BIA Wheels**, sizes 28" through 39"
- Heat Slinger
- High Temp. Alum. Paint
- High Temp. Grease
- Shaft and Bearings
- Inlet Cone
- Arrangement #9, with or without motor and drive.

For performance data please refer to the Aerovent Fan Selector Program.

# Dimensional Data – Arr. 9



SIZE	WHEEL DIA.	A	B	C	D	E	F	H		J	K	L	M		N	SHAFT DIA.		MAX. MTR. FRAME	
								450°	750°				450°	750°		450°	750°		
12	12 <sup>3</sup> / <sub>8</sub>	22	15 <sup>7</sup> / <sub>8</sub>	17 <sup>1</sup> / <sub>8</sub>	20	4	22 <sup>7</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>8</sub>	30 <sup>9</sup> / <sub>32</sub>	34 <sup>9</sup> / <sub>32</sub>	20	3	18	10 <sup>1</sup> / <sub>32</sub>	14 <sup>1</sup> / <sub>32</sub>	17 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>15</sup> / <sub>16</sub>	184T
14	14	22	17 <sup>5</sup> / <sub>8</sub>	18 <sup>29</sup> / <sub>32</sub>	20	4	22 <sup>7</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>8</sub>	31 <sup>11</sup> / <sub>32</sub>	35 <sup>11</sup> / <sub>32</sub>	20	3	18	11 <sup>1</sup> / <sub>32</sub>	15 <sup>3</sup> / <sub>32</sub>	17 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>15</sup> / <sub>16</sub>	184T
16	15 <sup>3</sup> / <sub>4</sub>	22	19 <sup>19</sup> / <sub>32</sub>	20 <sup>7</sup> / <sub>8</sub>	20	4	22 <sup>7</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>8</sub>	32 <sup>1</sup> / <sub>2</sub>	36 <sup>1</sup> / <sub>2</sub>	20	3	18	12 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>15</sup> / <sub>16</sub>	184T
18	17 <sup>23</sup> / <sub>32</sub>	27	21 <sup>1</sup> / <sub>16</sub>	22 <sup>27</sup> / <sub>32</sub>	25	5 <sup>1</sup> / <sub>4</sub>	26 <sup>11</sup> / <sub>16</sub>	19 <sup>7</sup> / <sub>8</sub>	40 <sup>13</sup> / <sub>32</sub>	44 <sup>13</sup> / <sub>32</sub>	20	4	23	13 <sup>21</sup> / <sub>32</sub>	17 <sup>21</sup> / <sub>32</sub>	22 <sup>3</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	256T
20	19 <sup>11</sup> / <sub>16</sub>	27	23 <sup>15</sup> / <sub>16</sub>	25 <sup>9</sup> / <sub>16</sub>	25	5 <sup>1</sup> / <sub>4</sub>	26 <sup>11</sup> / <sub>16</sub>	19 <sup>7</sup> / <sub>8</sub>	41 <sup>1</sup> / <sub>4</sub>	45 <sup>9</sup> / <sub>4</sub>	20	4	23	15	19	22 <sup>3</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	256T
22	22 <sup>1</sup> / <sub>16</sub>	32	26 <sup>11</sup> / <sub>16</sub>	27 <sup>31</sup> / <sub>32</sub>	30	6 <sup>1</sup> / <sub>2</sub>	29 <sup>9</sup> / <sub>16</sub>	21 <sup>3</sup> / <sub>4</sub>	46 <sup>19</sup> / <sub>32</sub>	50 <sup>19</sup> / <sub>32</sub>	20	5	28	16 <sup>19</sup> / <sub>32</sub>	20 <sup>19</sup> / <sub>32</sub>	25	1 <sup>15</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	286T
25	24 <sup>13</sup> / <sub>16</sub>	32	29 <sup>27</sup> / <sub>32</sub>	31 <sup>1</sup> / <sub>8</sub>	30	6 <sup>1</sup> / <sub>2</sub>	29 <sup>9</sup> / <sub>16</sub>	21 <sup>3</sup> / <sub>4</sub>	48 <sup>7</sup> / <sub>16</sub>	52 <sup>7</sup> / <sub>16</sub>	20	5	28	18 <sup>7</sup> / <sub>16</sub>	22 <sup>7</sup> / <sub>16</sub>	25	1 <sup>15</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	286T
28	27 <sup>19</sup> / <sub>16</sub>	41	33 <sup>3</sup> / <sub>8</sub>	34 <sup>21</sup> / <sub>32</sub>	39	6	31 <sup>5</sup> / <sub>16</sub>	22 <sup>1</sup> / <sub>4</sub>	54 <sup>9</sup> / <sub>32</sub>	58 <sup>9</sup> / <sub>32</sub>	28	6	37	20 <sup>19</sup> / <sub>32</sub>	24 <sup>19</sup> / <sub>32</sub>	27 <sup>1</sup> / <sub>2</sub>	2 <sup>9</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	324T
32	31 <sup>1</sup> / <sub>2</sub>	41	37 <sup>27</sup> / <sub>32</sub>	39 <sup>19</sup> / <sub>32</sub>	39	6	31 <sup>5</sup> / <sub>16</sub>	22 <sup>1</sup> / <sub>4</sub>	56 <sup>19</sup> / <sub>32</sub>	60 <sup>19</sup> / <sub>32</sub>	28	6	37	22 <sup>31</sup> / <sub>32</sub>	26 <sup>31</sup> / <sub>32</sub>	27 <sup>1</sup> / <sub>2</sub>	2 <sup>9</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	324T
35	35 <sup>7</sup> / <sub>16</sub>	50	41 <sup>25</sup> / <sub>32</sub>	43 <sup>17</sup> / <sub>32</sub>	48	7 <sup>1</sup> / <sub>2</sub>	31 <sup>19</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>4</sub>	61 <sup>11</sup> / <sub>16</sub>	65 <sup>11</sup> / <sub>16</sub>	28	7	46	25 <sup>11</sup> / <sub>16</sub>	29 <sup>11</sup> / <sub>16</sub>	29	2 <sup>11</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>	326T
39	39 <sup>3</sup> / <sub>8</sub>	50	46 <sup>17</sup> / <sub>32</sub>	48 <sup>5</sup> / <sub>16</sub>	48	7 <sup>1</sup> / <sub>2</sub>	31 <sup>19</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>4</sub>	64 <sup>11</sup> / <sub>32</sub>	68 <sup>11</sup> / <sub>32</sub>	28	7	46	28 <sup>11</sup> / <sub>32</sub>	32 <sup>11</sup> / <sub>32</sub>	29	2 <sup>11</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>	326T

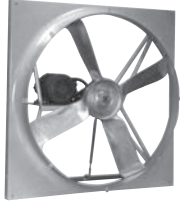
Dimensions are not to be used for construction.

# Quality Air Handling Equipment

AXIAL FLOW



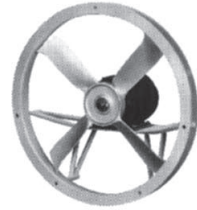
**Tubeaxial**



**Panel Fan**



**Mancooler**



**Ring Fan**



**Tubeaxial Adjustable Pitch**

VANEAXIAL



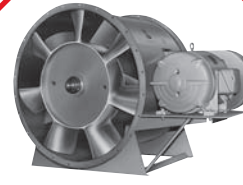
**Type VT**



**Type W Adjustable Pitch**



**Type VTF Fiberglass**

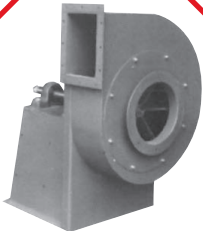


**Type B Higher Pressure**



**Axico Anti-Stall**

CENTRIFUGAL



**Industrial Exhaust**



**CB / CBA**



**Series 14 High Pressure**

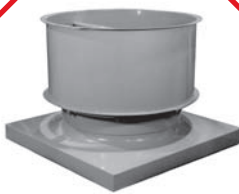


**Centaxial**



**Pressure Blower**

ROOF VENTILATOR



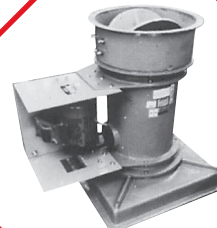
**Upblast Propeller**



**Upblast Axial**



**Tu-WAY™**

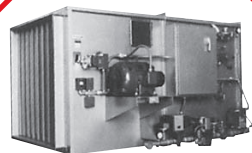


**Fiberglass**

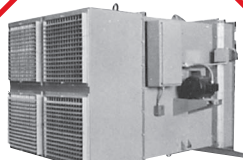


**PRV Centrifugal**

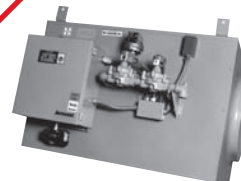
AIR HEATER



**Gas-Fired Air Make-Up**



**Steam Air Make-Up**



**Door Air Heater**

WARRANTY

Aerovent equipment is guaranteed to deliver its rated output, if properly installed and operated under normal conditions. Aerovent will correct by repair, replacement, or issuance of credit at our option, F.O.B. our plant, defects in material or workmanship which may develop under normal and proper use within eighteen (18) months after date of shipment from our factory, if purchaser gives us notice

within ten (10) days of discovering such defects. The correction of these defects by repair, replacement, or issuance of credit shall constitute fulfillment of all obligation to purchaser. (NOTE: We will not assume expense or liability for repairs made outside our factory without prior written consent.)



**Aerovent**

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