

# AMCA Publication 211 Proportionality Dimensions

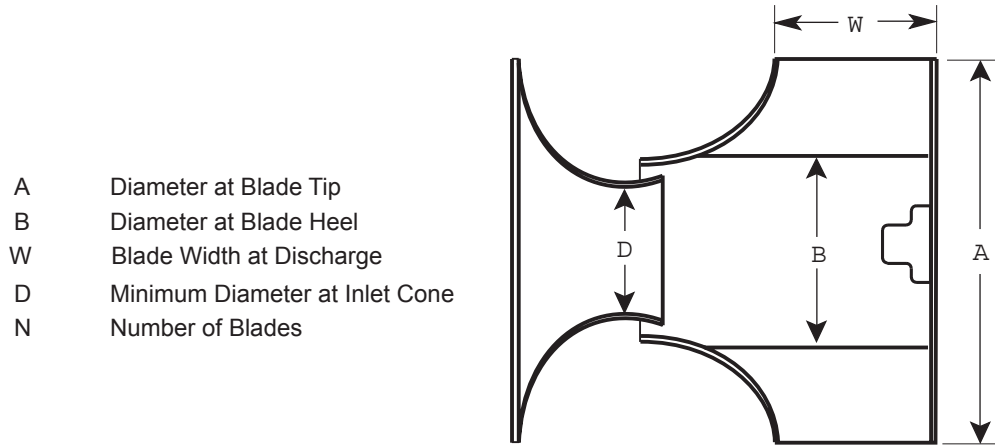


Figure A-1 Backward inclined centrifugal impeller

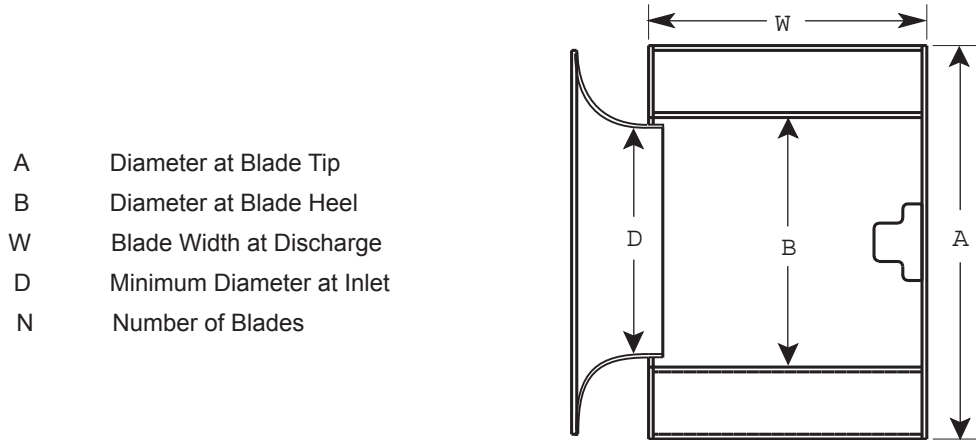
**Model No./Size**

**Dimensions**

A                      B                      W                      D                      N

1					
2					
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# AMCA Publication 211 Proportionality Dimensions



- A Diameter at Blade Tip
- B Diameter at Blade Heel
- W Blade Width at Discharge
- D Minimum Diameter at Inlet
- N Number of Blades

Figure A-2 Forward curved centrifugal impeller

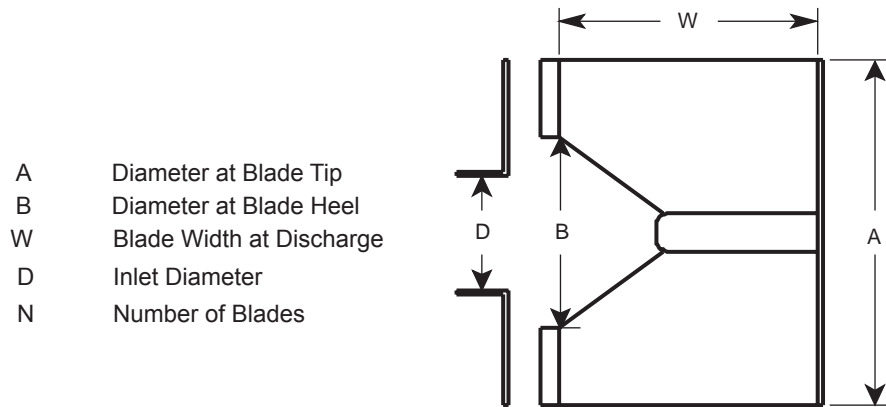
**Model No./Size**

**Dimensions**

A                      B                      W                      D                      N

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# AMCA Publication 211 Proportionality Dimensions



- A Diameter at Blade Tip
- B Diameter at Blade Heel
- W Blade Width at Discharge
- D Inlet Diameter
- N Number of Blades

Figure A-3 Radial centrifugal impeller

**Model No./Size**

**Dimensions**

A B W D N

1					
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# AMCA Publication 211 Proportionality Dimensions

- A Major Diameter at Discharge
- A<sup>1</sup> Minor Diameter at Discharge
- B Major Diameter at Blade Heel
- W Blade Width at Discharge
- D Minimum Diameter at Inlet Cone
- N Number of Blades

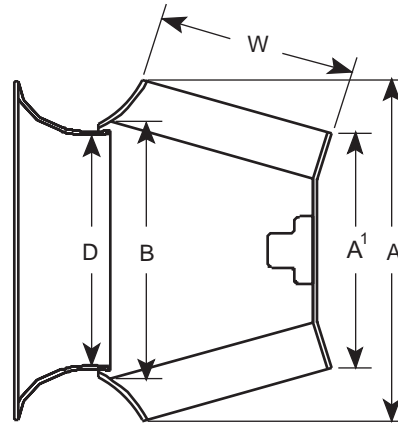


Figure A-4 Mixed flow impeller

**Model No./Size**

**Dimensions**

A                  A<sup>1</sup>                  B                  W                  D                  N

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# AMCA Publication 211 Proportionality Dimensions

- A Diameter at Blade Tip
- H Hub Diameter
- G Blade Width at Discharge
- " Pitch Angle at Tip or at a Designated Radius
- N Number of Blades

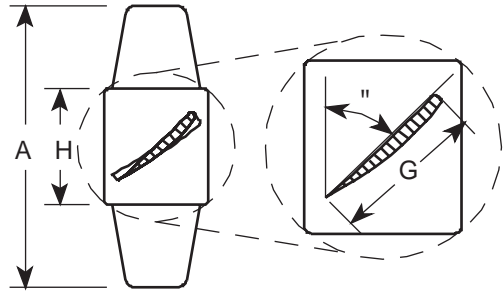


Figure A-5 Vaneaxial propeller

Model No./Size

Dimensions

A

H

G

α

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# AMCA Publication 211 Proportionality Dimensions

- A Diameter at Blade Tip
- H Hub Diameter
- G Blade Width at Tip
- " Pitch Angle at Tip or at a Designated Radius
- N Number of Blades

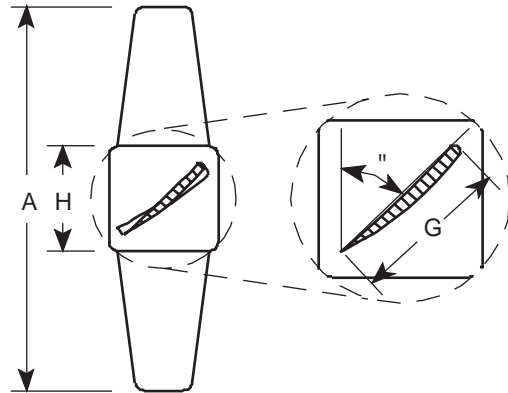


Figure A-6 Tubeaxial propeller

**Model No./Size**

**Dimensions**

A

H

G

$\alpha$

N

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# AMCA Publication 211 Proportionality Dimensions

- A Diameter
- H Blade Root Diameter, May be 20% less than Catalogued
- G Blade Width at a Designated Radius
- " Pitch Angle at a Designated Radius
- N Number of Blades

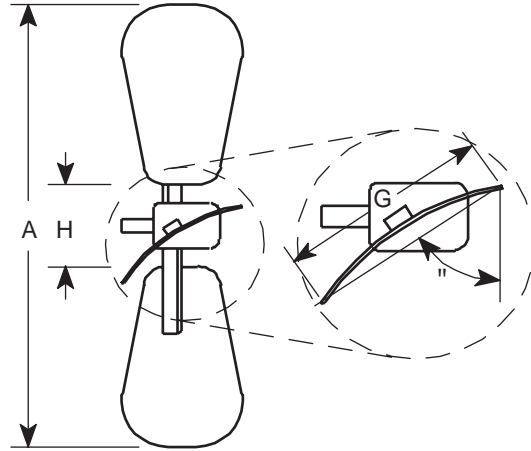


Figure A-7 Fabricated propeller

**Model No./Size**

**Dimensions**

A

H

G

$\alpha$

N

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# AMCA Publication 211 Proportionality Dimensions

Design tip clearance is defined as the difference between the design radius of the impeller and the design internal radius of the fan casing. Measured tip clearance is defined as the average of the tip clearance measurement for all blades taken at eight locations (45° intervals) around the fan casing.

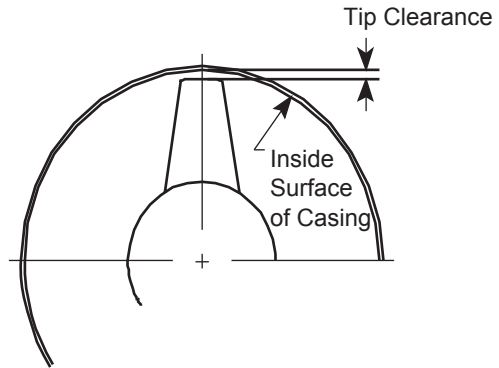


Figure A-8 Tip clearance

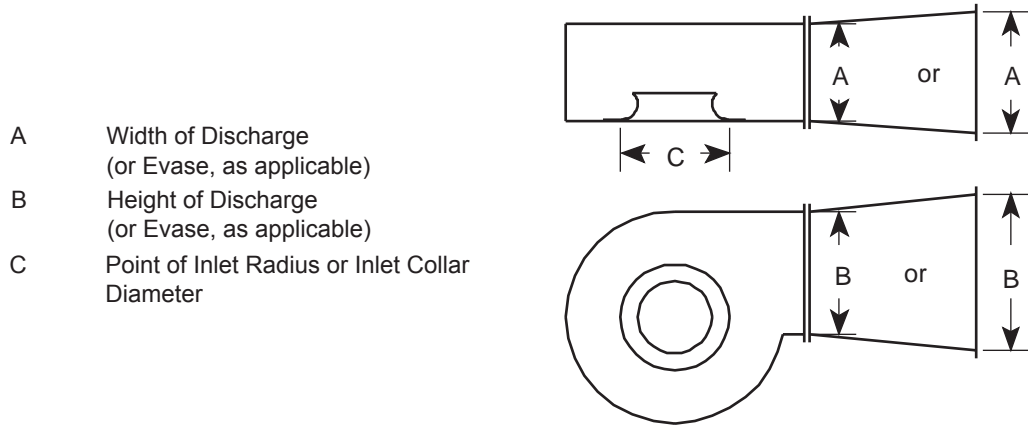
**Model No./Size**

**Dimensions**

Tip Clearance

1		
2		
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# AMCA Publication 211 Proportionality Dimensions



- A Width of Discharge  
(or Evase, as applicable)
- B Height of Discharge  
(or Evase, as applicable)
- C Point of Inlet Radius or Inlet Collar  
Diameter

Figure A-9 Centrifugal fan housing SI-DI

**Model No./Size**

**Dimensions**

A

B

C

1			
2			
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# AMCA Publication 211 Proportionality Dimensions

- S Shaft Diameter if Shaft Extends Through Box
- A Inlet Height
- B Inlet Width
- L Inlet Box Length

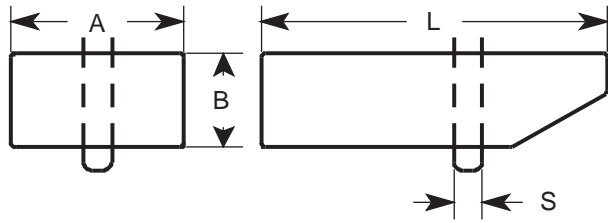


Figure A-10 Inlet box

**Model No./Size**

**Dimensions**

	S	A	B	L
1				
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# AMCA Publication 211 Proportionality Dimensions

- Q Shaft Height above Base
- C Inlet Diameter at Tangent Point of Inlet Radius or Inlet Collar Diameter

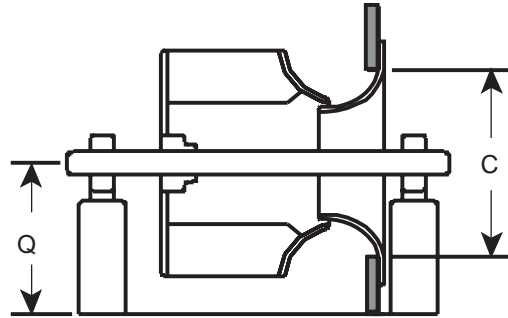


Figure A-11 ARR. 3 plenum fan

	<u>Model No./Size</u>	<u>Dimensions</u>	
		Q	C
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2			
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# AMCA Publication 211 Proportionality Dimensions

- Q Shaft Height above Base
- C Inlet Diameter at Tangent Point of Inlet Radius or Inlet Collar Diameter

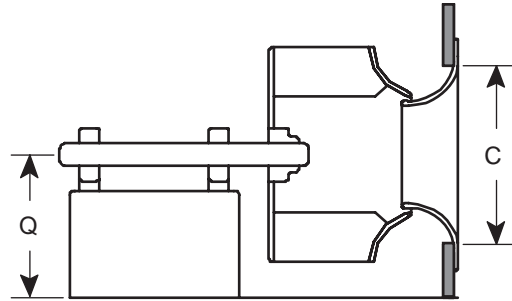


Figure A-12 ARR. 1 plenum fan

	<u>Model No./Size</u>	<u>Dimensions</u>	
		Q	C
1			
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# AMCA Publication 211 Proportionality Dimensions

- P Panel Size
- C Inlet Diameter at Tangent Point of Inlet Radius or Inlet Collar Diameter

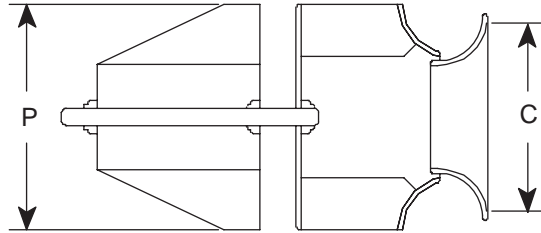


Figure A-13 Plug fan

	<u>Model No./Size</u>	<u>Dimensions</u>	
		P	C
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# AMCA Publication 211 Proportionality Dimensions

- U Drum Diameter or Square Size
- B1 Interior Drum Size
- B2 Interior Drum Size at Discharge
- T Length to Belt Tube
- J Belt Tube Size
- E Length of Vanes
- NV Number of Vanes

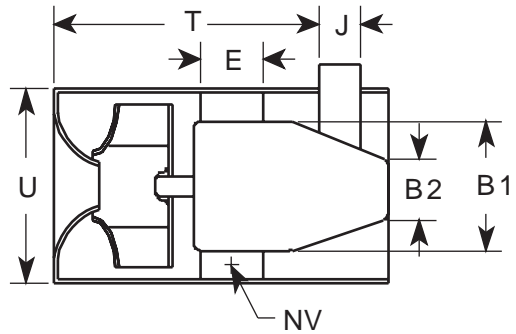


Figure A-14 In-line centrifugal fan

**Model**  
**No./Size**

**Dimensions**

	U	B1	B2	T	J	E	NV
1							
2							
3							
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9							
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12							

# AMCA Publication 211 Proportionality Dimensions

- U Diameter - ID
- B Interior Drum Diameter
- T Length to Belt Tube
- E Length of Vanes
- NV Number of Vanes
- J Belt Tube Size

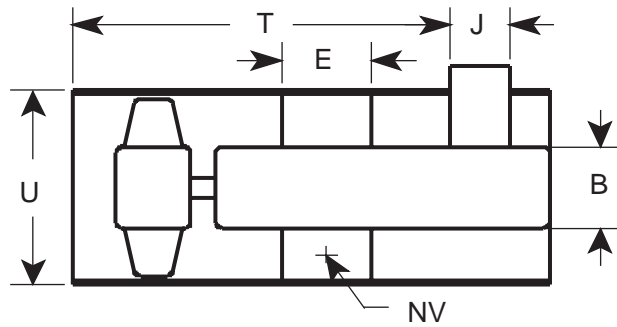


Figure A-15 Vaneaxial fan belt drive

## Model No./Size

## Dimensions

U                      B                      T                      E                      NV                      J

1						
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# AMCA Publication 211 Proportionality Dimensions

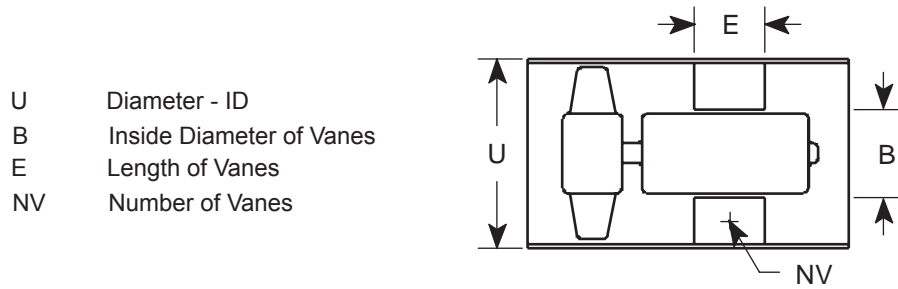


Figure A-16 Vaneaxial fan direct drive

## Model No./Size

## Dimensions

	U	B	E	NV
1				
2				
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12				

# AMCA Publication 211 Proportionality Dimensions

- U Diameter - ID
- B Size of Drive Tube
- T Length to Belt Tube
- J Belt Tube Size

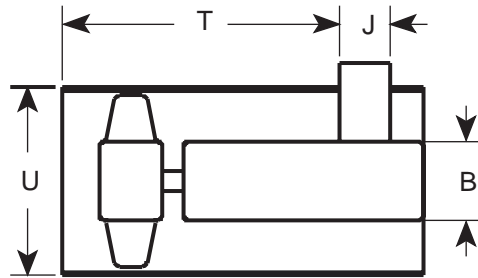


Figure A-17 Tubeaxial fan belt drive

**Model No./Size**

**Dimensions**

	U	B	T	J
1				
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# AMCA Publication 211 Proportionality Dimensions

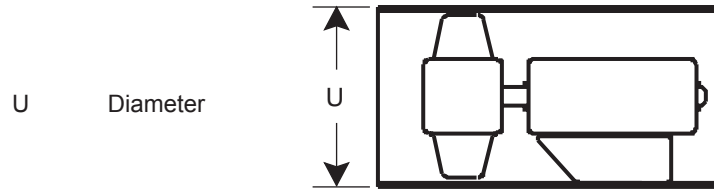


Figure A-18 Tubeaxial fan direct drive

**Model No./Size**      **Dimensions**

U

1		
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# AMCA Publication 211 Proportionality Dimensions

- O Orifice Diameter
- K Orifice Depth
- R Orifice Radius
- P Panel or Ring Size

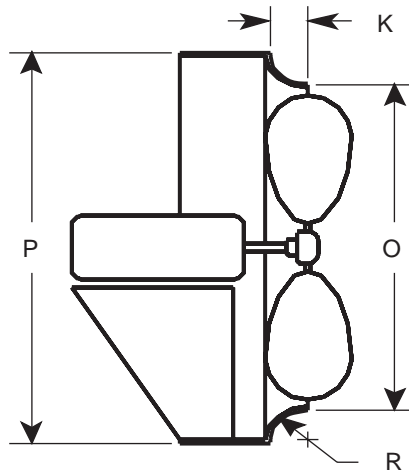


Figure A-19 Propeller fan

**Model No./Size**

**Dimensions**

	O	K	R	P
1				
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# AMCA Publication 211 Proportionality Dimensions

- N Hood Height
- V Hood Diameter or Size
- F Discharge Area or Size
- C Inlet Collar Size (if provided)
- I Recommended Inside Curb Dim.
- M Minimum Height Above Roof

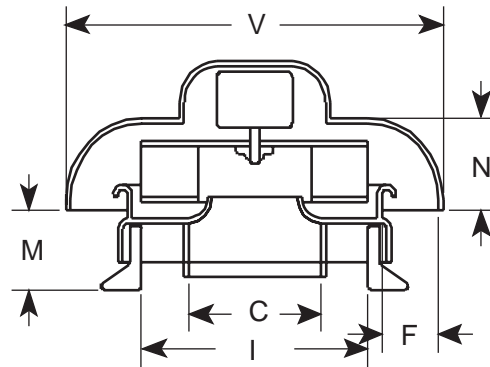


Figure A-20 Centrifugal PRV exhaust-down discharge

**Model No./Size**

**Dimensions**

N V F C I M

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# AMCA Publication 211 Proportionality Dimensions

- V Housing Diameter or Size
- F Discharge Area or Size
- C Inlet Collar Size (If Provided)
- I Recommended Inside Curb Dim.

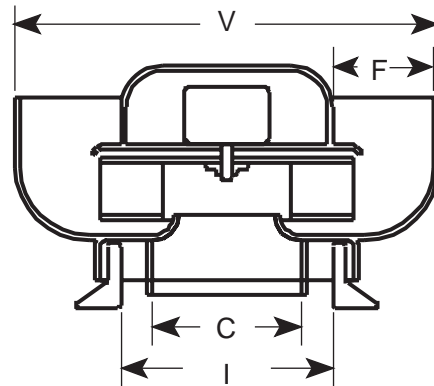


Figure A-21 Centrifugal PRV exhaust-up discharge

**Model No./Size**

**Dimensions**

	V	F	C	I
1				
2				
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# AMCA Publication 211 Proportionality Dimensions

- O Orifice Diameter
- V Hood Diameter or Size
- F Discharge Size or Area
- C Inlet Collar Size (If Provided)
- K Orifice Depth
- M Minimum Height Above Roof
- I Recommended Inside Curb Dim.
- R Orifice Radius

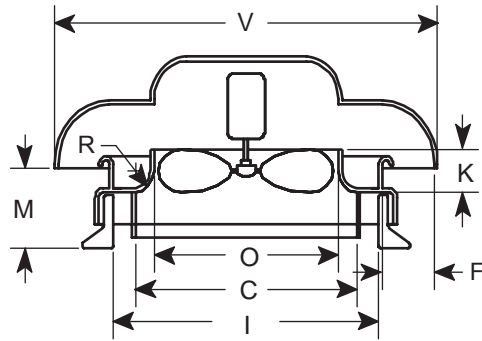


Figure A-22 Axial PRV supply or exhaust

**Model  
No./Size**

**Dimensions**

O V F C K M I R

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# AMCA Publication 211 Proportionality Dimensions

- V Hood Size
- F Intake Size or Area
- N Hood Height
- Y Body Size
- M Height Above Base

See A9 for Blower Dimensions Required

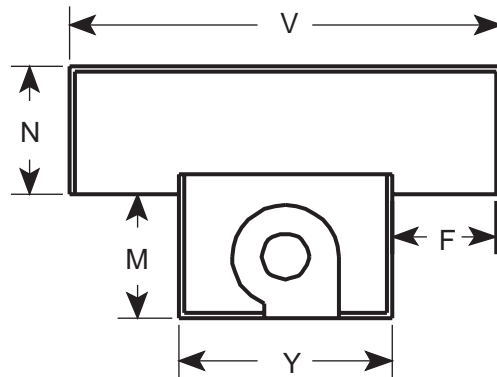


Figure A-23 Centrifugal supply PRV

**Model No./Size**

**Dimensions**

V

F

N

Y

M

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# AMCA Publication 211 Proportionality Dimensions

- X Windband Diameter
- C Inlet Collar Size (If Provided)
- O Orifice Diameter
- K Orifice Depth
- R Orifice Radius
- I Recommended Inside Curb Dim.

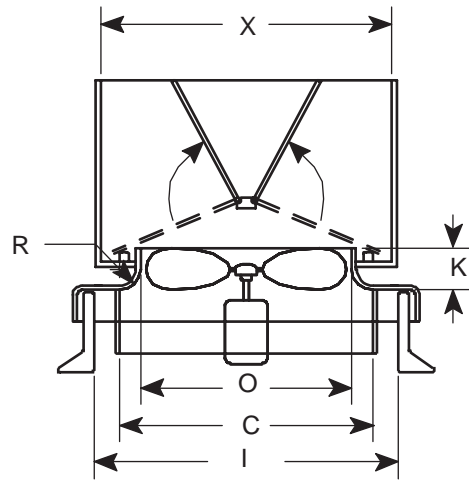


Figure A.24 Axial upblast PRV

**Model No./Size**

**Dimensions**

X C O K R I

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# AMCA Publication 211 Proportionality Dimensions

- C Inlet Collar Size (If Provided)
- X Windband Diameter, Inside
- I Recommended Inside Curb Dim.

See Tubeaxial and Vaneaxial for Dim.  
 Figures A-15 to A-18

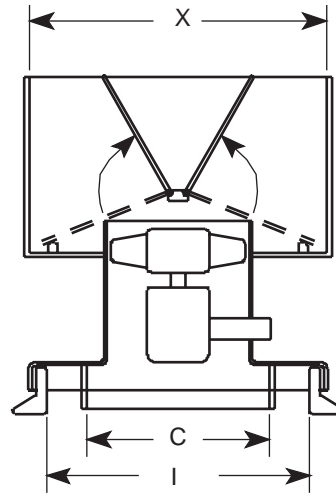


Figure A-25 Axial upblast PRV

**Model No./Size**

**Dimensions**

	C	X	I
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# AMCA Publication 211 Proportionality Dimensions

- C Inlet Collar Size (If Provided)
- V Hood Size
- F Discharge/Intake Size or Area
- N Hood Height
- M Height Above Roof
- I Recommended Inside Curb Dim.

See tubeaxial Figure A-17 and A-18 for Required Fan Dim.

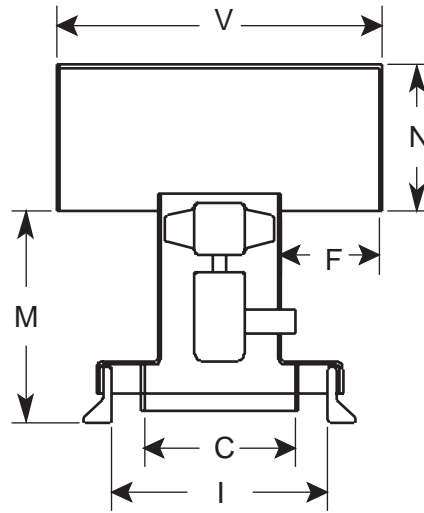


Figure A-26 Axial supply/exhaust PRV

**Model No./Size**

**Dimensions**

C                      V                      F                      N                      M                      I

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# AMCA Publication 211 Proportionality Dimensions

- V Hood Size
- F Discharge/Intake Size of Area
- N Hood Height
- M Height Above Roof
- Y Body Size
- O Orifice Diameter
- K Orifice Depth
- R Orifice Radius

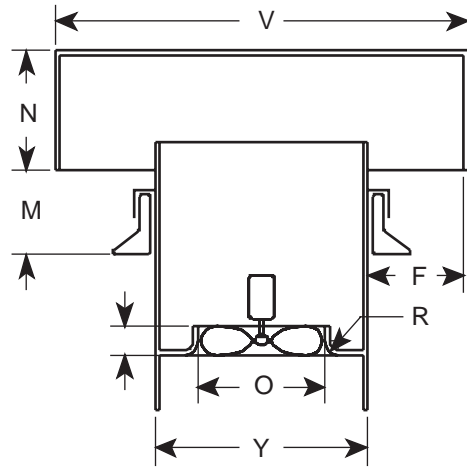


Figure A-27 Combination PRV exhaust-supply-circulate

**Model  
No./Size**

**Dimensions**

V F N M Y O K R

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# AMCA Publication 211 Proportionality Dimensions

- Y Body Size
- K Orifice Depth
- O Orifice Depth
- R Orifice Radius
- X Wind Band Diameter, Inside

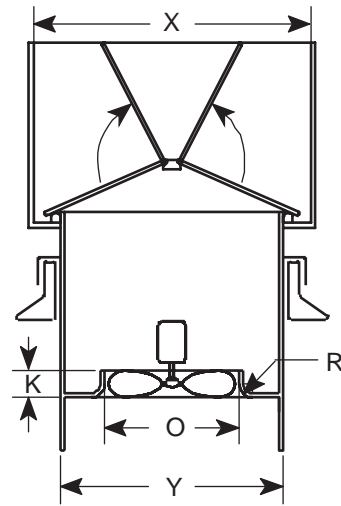


Figure A-28 Combination PRV exhaust-circulate

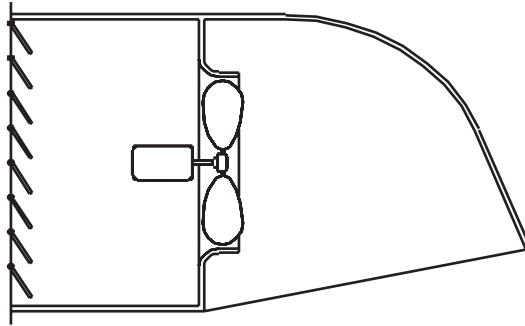
**Model No./Size**

**Dimensions**

Y                      K                      O                      R                      X

1					
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# AMCA Publication 211 Proportionality Dimensions



See Figure A-19 for Dimensional Requirements for Propeller Fans  
Provide All Dimensions Required to Define Inlet and/or Outlet Appurtenances

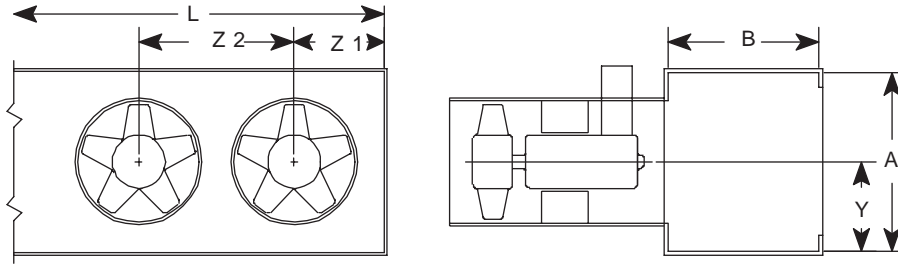
**Figure A-29 Agricultural fans**

**Model No./Size**

**Dimensions**

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# AMCA Publication 211 Proportionality Dimensions



L Interior Width  
Z Fan Spacing

A Interior Height  
B Interior Depth  
Y Shaft Center Height

See Tubeaxial and Vaneaxial Figures A-15 to A-18 for Required Fan Dimensions

**Figure A-30 Vane/tubeaxial air curtain**

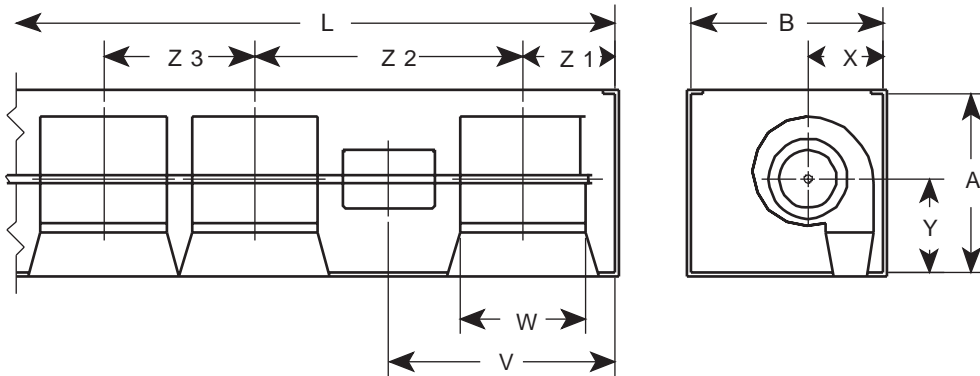
**Model No./Size**

**Dimensions**

L Z A B Y

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# AMCA Publication 211 Proportionality Dimensions



- |   |                                  |   |                                 |
|---|----------------------------------|---|---------------------------------|
| A | Interior Height                  | W | Centrifugal Fan/Housing Width   |
| B | Interior Depth                   | X | Shaft Center Depth              |
| L | Interior Width                   | Y | Shaft Center Height             |
| V | Motor Spacing (where applicable) | Z | Centrifugal Fan/Housing Spacing |

Figure A-31 Centrifugal/tangential air curtain

**Model No./Size**

**Dimensions**

A            B            L            V            W            X            Y            Z

1								
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# AMCA Publication 211 Proportionality Dimensions

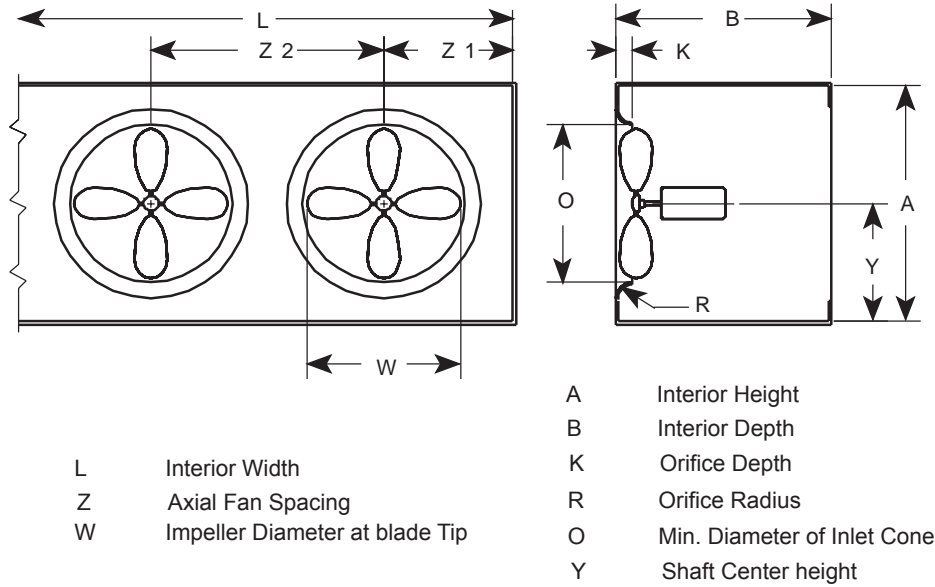


Figure A-32 Axial air curtain

**Model  
No./Size**

**Dimensions**

L      Z      W      A      B      K      R      O      Y

1									
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# AMCA Publication 211 Proportionality Dimensions

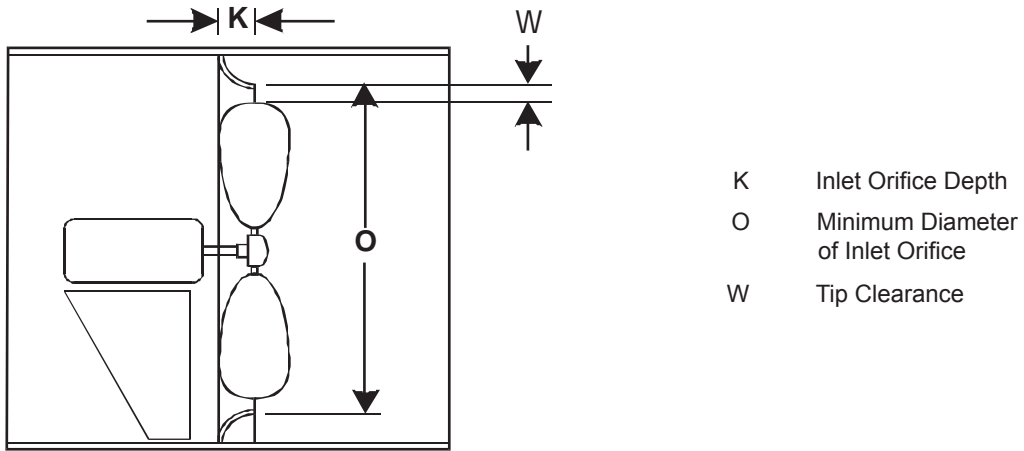


Figure A-33 Circulator fan

**Model No./Size**

**Dimensions**

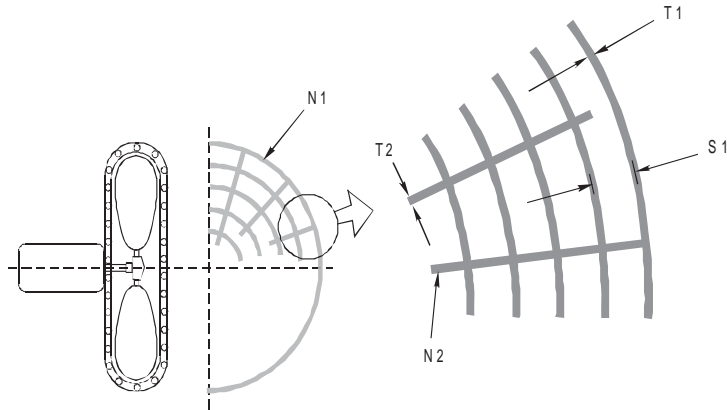
K

O

W

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12				

# AMCA Publication 211 Proportionality Dimensions



- N1 Number of Rings
- N2 Number of Radial Supports
- T1 Ring Thickness
- T2 Radial Support Thickness
- S1 Ring Spacing

Figure A-34 Circulator fan head with guard

**Model No./Size**

**Dimensions**

N1

N2

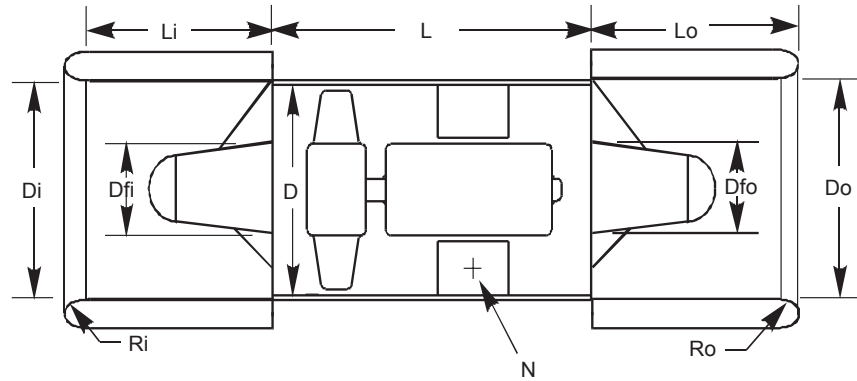
T1

T2

S1

1					
2					
3					
4					
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12					

# AMCA Publication 211 Proportionality Dimensions



- L Fan Length
- Li Inlet Silencer Length
- Lo Outlet Silencer Length
- D Fan Diameter
- Di Inlet Silencer Diameter
- Do Outlet Silencer Diameter
- Dfi Inlet Fairing Diameter
- Dfo Outlet Fairing Diameter
- Ri Inlet Bell Radius
- Ro Outlet Bell Radius
- N Number of Vanes

Figure A-35 Jet tunnel fan dimensions

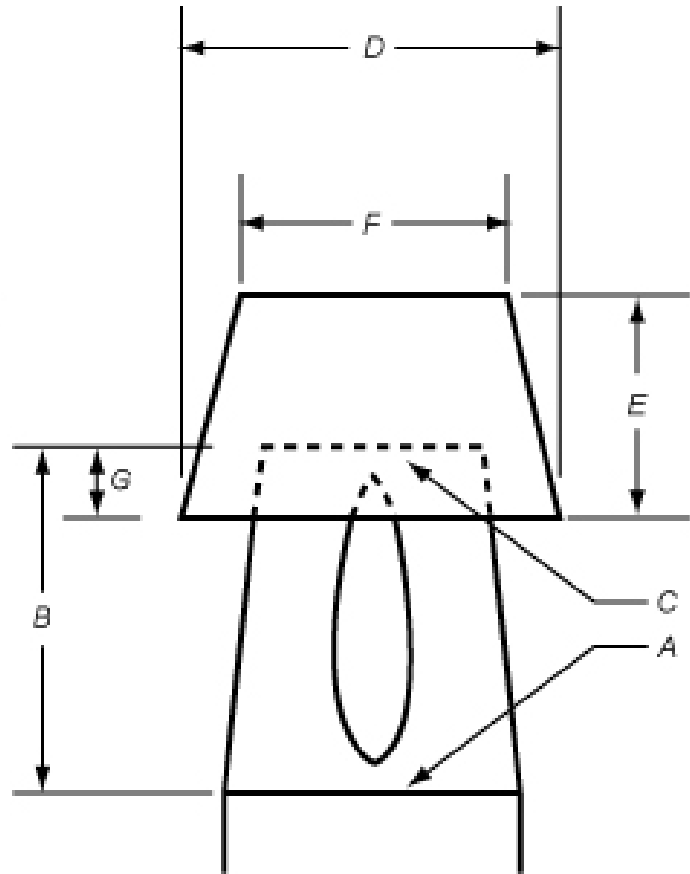
**Model No./Size**

**Dimensions**

L Li Lo D Di Do Dfi Dfo Ri Ro N

1											
2											
3											
4											
5											
6											
7											
8											

- A Nozzle inlet area after blade discharge
- B Nozzle height
- C Nozzle discharge area
- D Windband inlet area
- E Windband height
- F Windband discharge area
- G Overlap between nozzle and windband



**Figure A-36 Induced Flow Fan Nozzle and Windband Dimensions**

<u>Model No./Size</u>	A	B	C	D	E	F	G
1							
2							
3							
4							
5							
6							
7							
8							