

SUBMITTAL NO: 233423-1      DATE: 09/14/23

REVIEWED BY: ER

SUBSTITUTIONS, VARIANCES OR INDISCREPANCIES  
NOT SPECIFICALLY NOTED AS SUCH ARE NOT APPROVED.

APPROVED                        REJECTED                      
APPROVED AS NOTED        REVIEW & RESUBMIT        
REVIEWED                   

SCHWOB BUILDING COMPANY, LTD (SBC)  
THIS SUBMITTAL HAS BEEN REVIEWED BY SBC.  
SUBCONTRACTORS/VENDORS RESPONSIBILITY  
FOR ERRORS AND OMISSIONS IN SUBMITTALS IS NOT  
RELIEVED BY SBC REVIEW. SUBCONTRACTORS ARE  
RESPONSIBLE FOR ALL FIELD MEASUREMENTS.  
ARCHITECT/ENGINEERS RESPONSIBILITY IS NOT  
RELIEVED BY SBC REVIEW.

**BW**  
**&A** Barrett, Woodyard & Associates, Inc.

- REVIEWED
- REVIEWED AS NOTED
- REVISE AND RESUBMIT
- REJECTED

THIS REVIEW IS FOR GENERAL COMPLIANCE WITH THE  
DESIGN INTENT OF THE CONTRACT DOCUMENTS. ALL  
COORDINATION OF THE WORK AND STRICT COMPLIANCE  
WITH THE CONTRACT DOCUMENTS IS THE SOLE  
RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER  
ASSUMES NO RESPONSIBILITY FOR THE SUITABILITY OF ANY  
SUBSTITUTE MATERIALS AS DEPICTED IN THIS SUBMITTAL.

BY tsuber

DATE 9/18/2023

EF-A PAGE 4  
EF-1 PAGE 8  
EF-2 PAGE 12  
EF-3 PAGE 16  
EF-4 PAGE 20  
EF-5 PAGE 24  
TEF-1 PAGE 26  
TEF-2 PAGE 30  
TEF-3,4 PAGE 32  
TEF-5 PAGE 36  
TEF-6 PAGE 39

Exhaust Fans

Southeastern Freight Lines West Houston  
22410 Beckendorf Road  
Katy, TX 77449

**SUBCONTRACTOR**

Comfort Systems USA (South Central)  
9450 W. Wingfoot Rd.  
Houston, TX 77041  
P: 832-590-5700  
F: 713-856-9720

**ARCHITECT**

Robert Johnson Architects  
1808 W Morehead St  
Charlotte, NC 28208  
704-342-1058

**SUPPLIER**

H.D. Grant Co  
5417 Renwick Dr, Suite C  
Houston, TX 77081  
713-668-8880

**GENERAL CONTRACTOR**

Schwob Building Company, LLC  
1350 Lakeshore Drive Suite 160  
Coppell, TX 75019  
972-243-7674

Specification Section:

Description: Exhaust Fans

**SUBCONTRACTOR'S REVIEW**

We have reviewed these items for conformance with the specifications and note the following exceptions.

**GENERAL CONTRACTORS'S REVIEW**

We have reviewed these drawings and certify to the best of our knowledge that all quantities, dimensions and materials conform to the information presented in the plans and specifications.

By: \_\_\_\_\_

Date: \_\_\_\_\_

Submittal Number: \_\_\_\_\_

**ARCHITECT'S REVIEW**

Justin Harr  
Project Manager

Date: 9/11/2023

# FANS

## SUBMITTAL DATA

**JOB NAME:** SOUTHEASTERN FREIGHT LINES-WEST HOUSTON

**ARCHITECT:** ROBERT JOHNSON ARCHITECTS

**ENGINEER:** BW&A

**LOCATION:** HOUSTON, TEXAS

**CONTRACTOR:** COMFORT SYSTEMS USA SOUTH CENTRAL

**DATE:** AUGUST 18, 2023

**SUBMITTED BY**

**STEPHEN TAYLOR**

**H.D. GRANT COMPANY, INC.**

**5417 RENWICK DR.**

**HOUSTON, TX 77081**

**Phone No. (713) 668-8880**

**Fax: (713) 668-8887**

**Model: G-200-C**  
Direct Drive Centrifugal Roof Exhaust Fan

Previously: G-203-C

Dimensional	
Quantity	2
Weight w/o Acc's (lb)	143
Weight w/ Acc's (lb)	160
Weight w/ Acc's and Curb (lb)	189
Max T Motor Frame Size	184
Standard Curb Cap Size (in.)	30 x 30
Optional Damper (in.)	24 x 24
Roof Opening (in.)	26.5 x 26.5

Performance	
Requested Volume (CFM)	3,600
Actual Volume (CFM)	4,055
Total External SP (in. wg)	0.381
Fan RPM	860
Operating Power (hp)	0.77
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	4,813
Static Eff. (%)	32

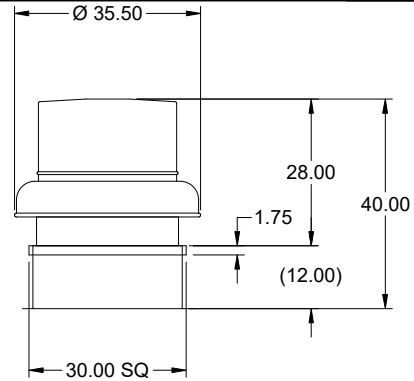
Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	1,697

Motor	
Motor Mounted	Yes
Size (hp)	3/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	860
Efficiency Rating	Standard
Windings	1
Short Circuit Current Rtg (SCCR)	5 kA

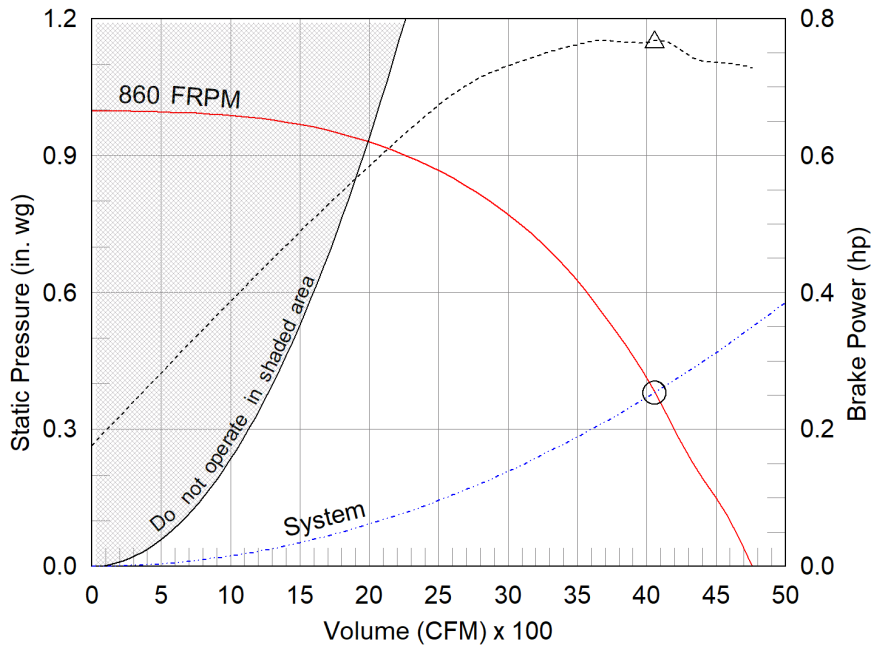
Coordinate with electrical.

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones



OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- System curve
- Brake horsepower curve

**Static Pressure Calculations**

External SP	0.3 in. wg
Direct Drive RPM Adjustment	0.081 in. wg
<b>Total External SP</b>	<b>0.381 in. wg</b>

**Notes:**

All dimensions shown are in units of in.  
\*Please consult factory for actual motor amp draw  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft



## Model: G-200-C

### Direct Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-300) wheel - Aluminum curb cap with prepunched mounting holes - Birdscreen - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

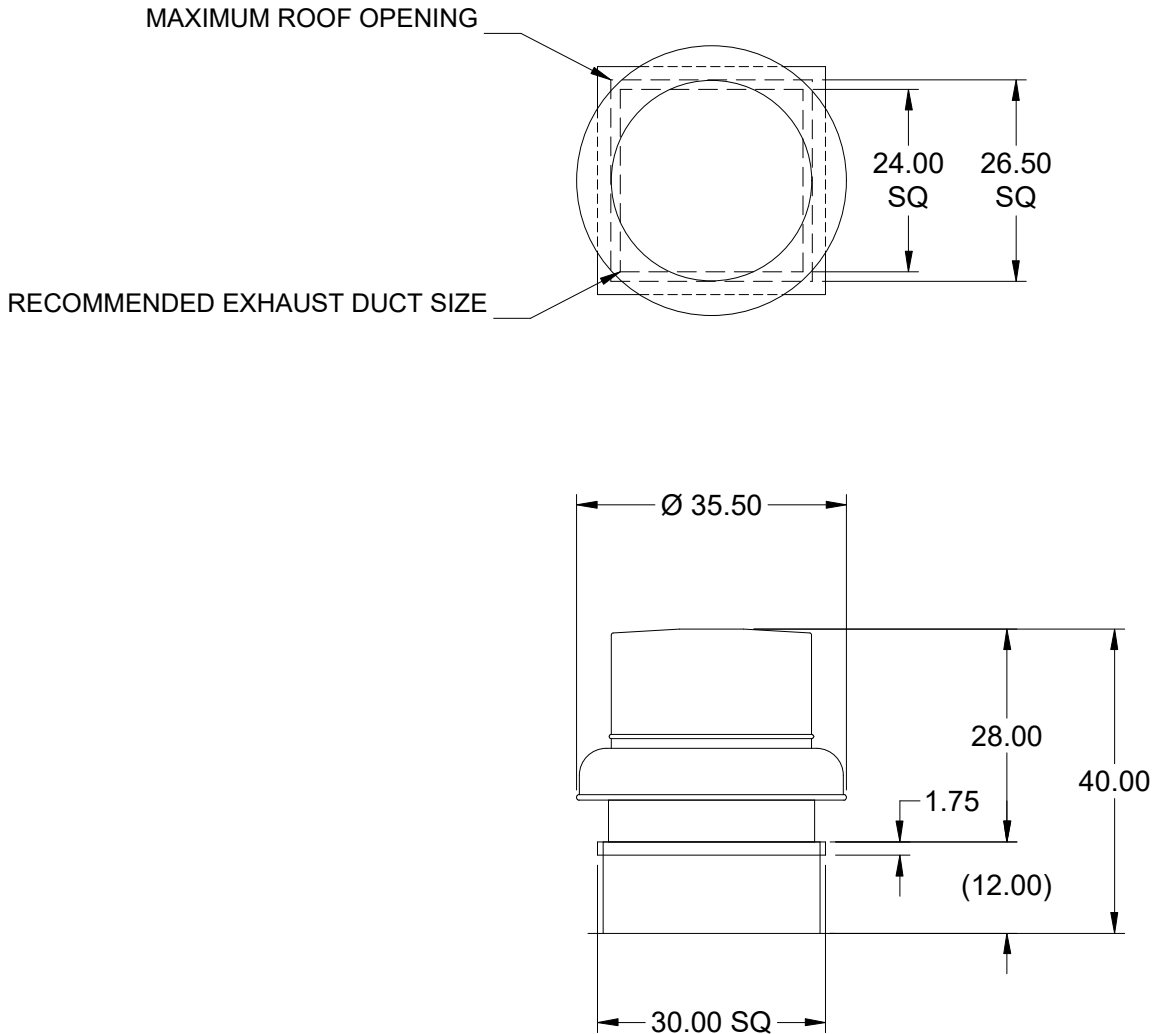
Standard Curb Cap Size - 30 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Birdscreen: Galvanized, nom. 84% Free Area  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, WD-100-PB-24X24, Gravity Operated, Not Coated,  
Nominal Size

#### Selected Sub Marks

*See individual submittals for full details*  
GPI-30-24-G12

# Assembly Drawing

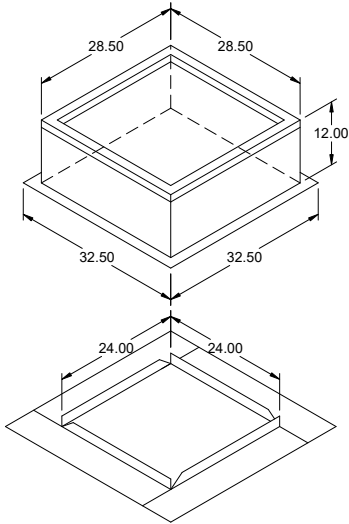
Type: Direct Drive Centrifugal Roof Exhaust Fan



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	2	GPI-30	Nominal	1.5	29	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	30	30	28.5	28.5	25	25	29	29

\*May not be applicable

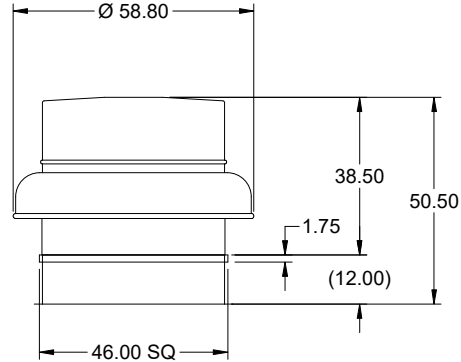
#### Damper Tray

Damper Tray Width (in.)	Damper Tray Length (in.)
24	24

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

**Model: GB-330-10**  
 Belt Drive Centrifugal Roof Exhaust Fan

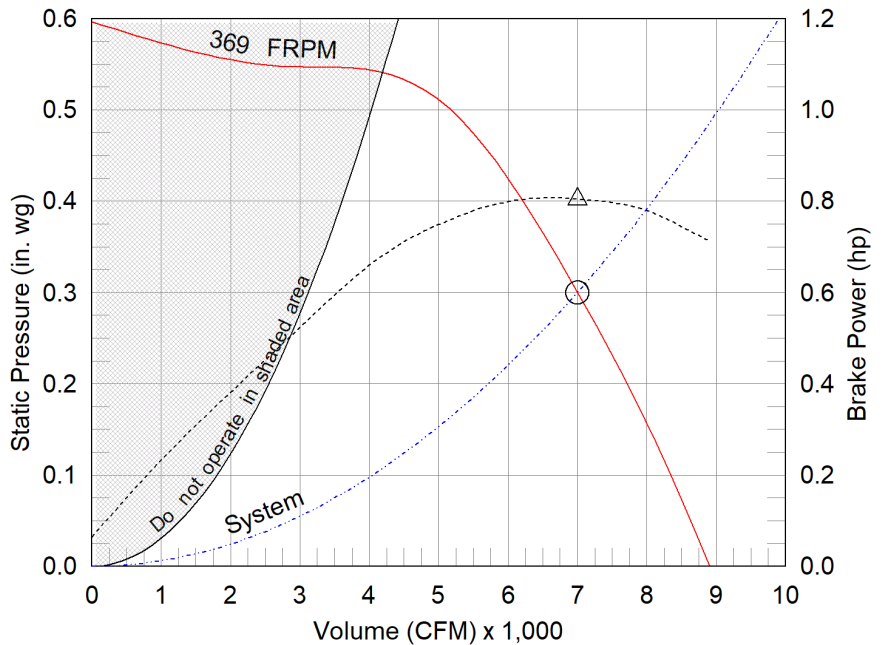


OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	177
Weight w/ Acc's (lb)	213
Weight w/ Acc's and Curb (lb)	257
Max T Motor Frame Size	215
Standard Curb Cap Size (in.)	46 x 46
Optional Damper (in.)	40 x 40
Roof Opening (in.)	42.5 x 42.5

Performance	
Requested Volume (CFM)	7,000
Actual Volume (CFM)	7,000
Total External SP (in. wg)	0.3
Fan RPM	369
Operating Power (hp)	0.8
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Drive Loss (%)	6.7
Tip Speed (ft/min)	3,474
Static Eff. (%)	44

Misc Fan Data	
Fan Eff. Index (FEI)	1.73
Outlet Velocity (ft/min)	1,115



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

Coordinate with electrical.

Motor	
Motor Included	Yes
Size (hp)	1
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Efficiency Rating	Standard
Windings	1
NEC FLA* (Amps)	16
Min. Circuit Ampacity (MCA)	20
Max. Overcurrent Protection (MOP)	40
Short Circuit Current Rtg (SCCR)	5 kA

**Notes:**

All dimensions shown are in units of in.  
 \*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.  
 MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
 LwA - A weighted sound power level, based on ANSI S1.4  
 dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
 Sones - calculated using ANSI/AMCA 301 at 5 ft

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones



## Model: GB-330-10

### Belt Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Curb cap with prepunched mounting holes - Motor and drives isolated on shock mounts - Birdscreen - Ball bearing motors - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearings meet or exceed temperature rating of fan - Static resistant belts - Corrosion resistant fasteners - Sizes 141 and larger have internal Lifting lugs

#### Selected Options & Accessories:

Dual Drives  
Standard Curb Cap Size - 46 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Birdscreen: Galvanized, nom. 84% Free Area  
Bearings with Grease Fittings, L10 life of 100,000 hrs (L50 avg. life 500,000 hrs)  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, WD-100-PB-40X40, Gravity Operated, Not Coated,  
Nominal Size

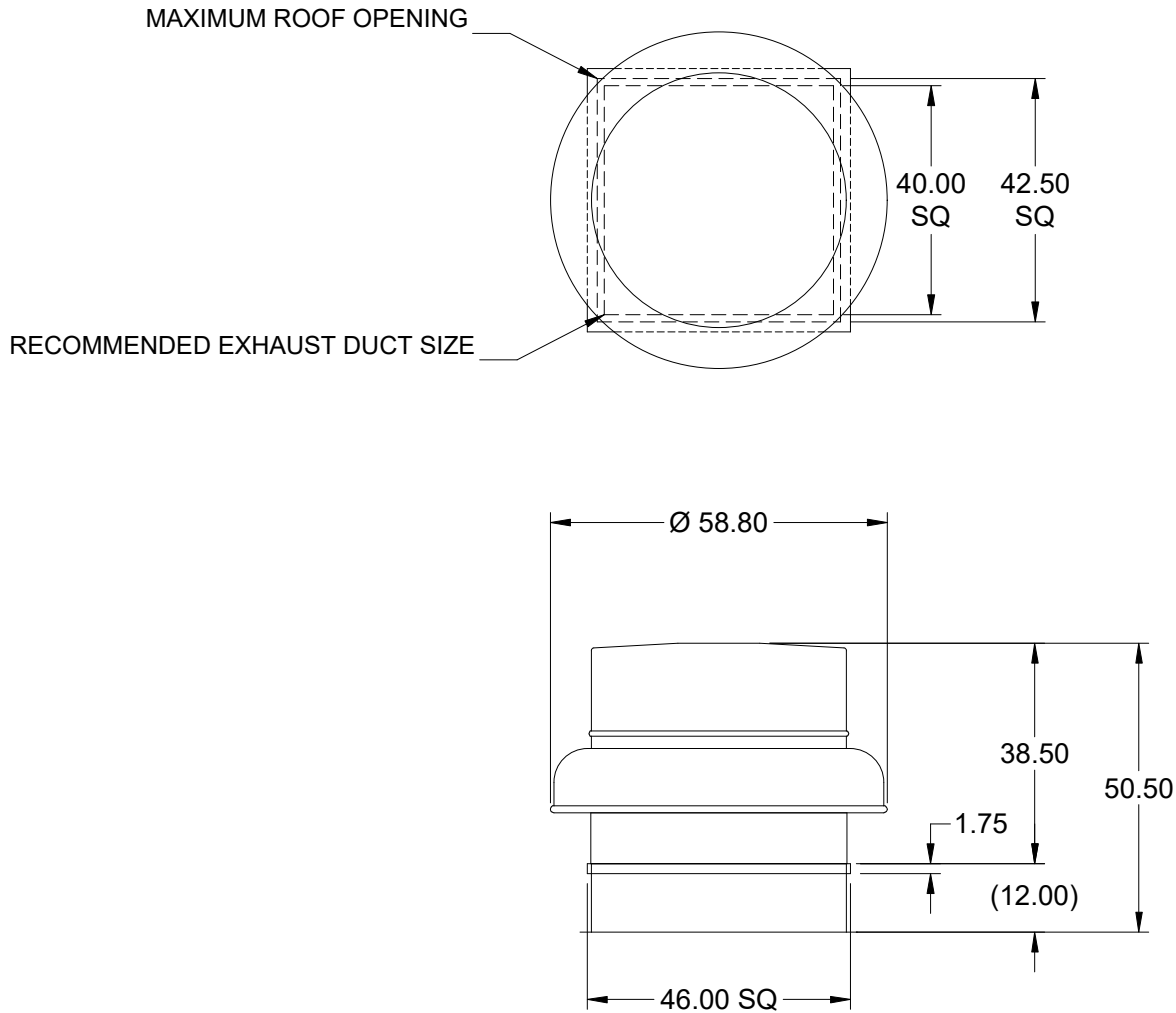
#### Selected Sub Marks

See individual submittals for full details  
GPI-46-40-G12

Fan shall energize when monitoring system indicates high level alarm.

# Assembly Drawing

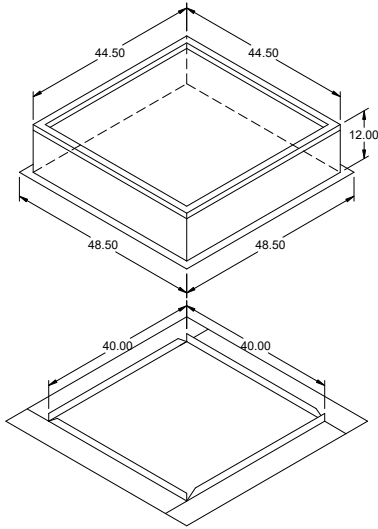
Type: Belt Drive Centrifugal Roof Exhaust Fan



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	1	GPI-46	Nominal	1.5	44	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	46	46	44.5	44.5	41	41	45	45

\*May not be applicable

#### Damper Tray

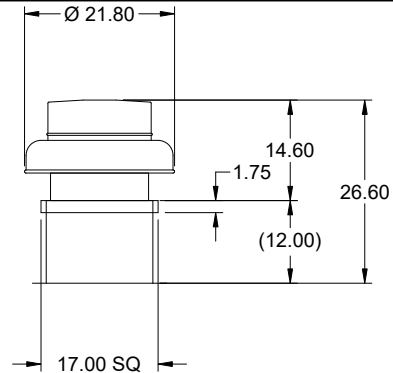
Damper Tray Width (in.)	Damper Tray Length (in.)
40	40

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

**Model: G-095-D**  
Direct Drive Centrifugal Roof Exhaust Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	28
Weight w/ Acc's (lb)	35
Weight w/ Acc's and Curb (lb)	49
Standard Curb Cap Size (in.)	17 x 17
Optional Damper (in.)	10 x 10
Roof Opening (in.)	13.5 x 13.5

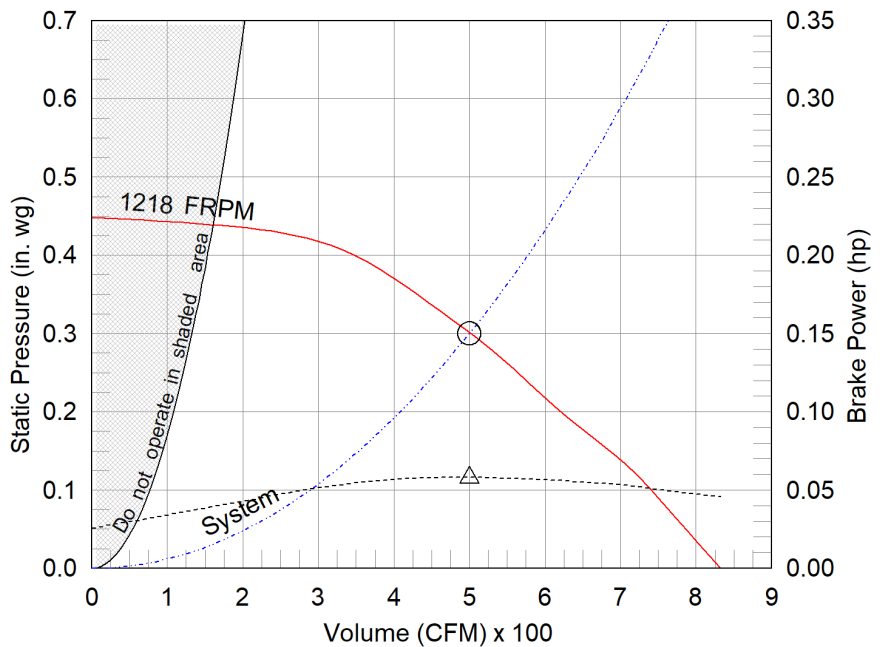


OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Performance	
Requested Volume (CFM)	500
Actual Volume (CFM)	500
Total External SP (in. wg)	0.3
Fan RPM	1218
Operating Power (hp)	0.06
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,469
Static Eff. (%)	41

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	431

Motor	
Motor Mounted	Yes
Size (hp)	1/8 <del>(or greater)</del>
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1550
Efficiency Rating	Standard
Windings	1



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

**Notes:**

All dimensions shown are in units of in.  
\*Please consult factory for actual motor amp draw  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft

Coordinate with electrical.

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones



## Model: G-095-D

### Direct Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-300) wheel - Aluminum curb cap with prepunched mounting holes - Birdscreen - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

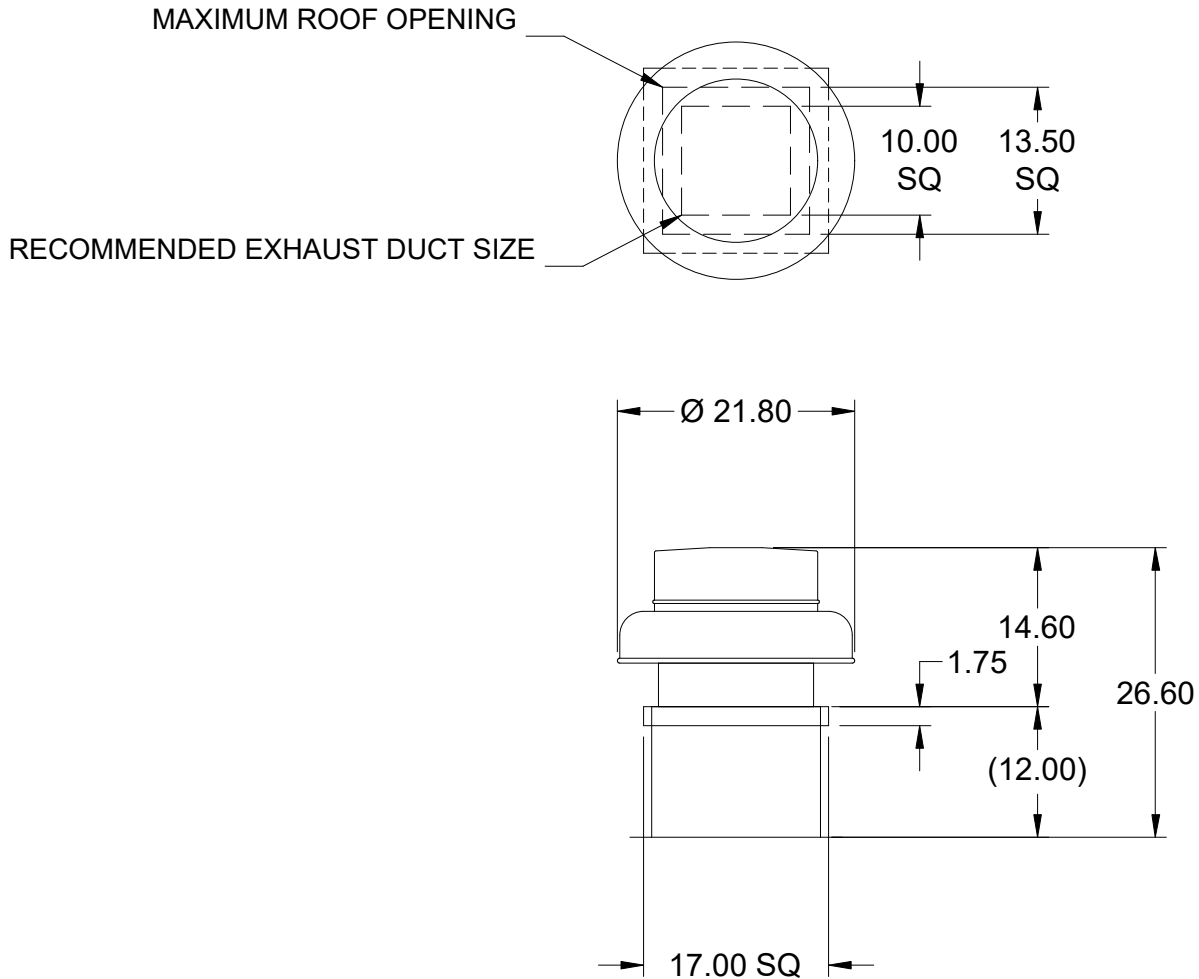
Standard Curb Cap Size - 17 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Solid State Speed Control, 6 Amp, Shipped With Unit  
Birdscreen: Galvanized, nom. 84% Free Area  
Composite Wheel Material  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, BD-100-PB-10X10, Gravity Operated, Not Coated,  
Nominal Size

#### Selected Sub Marks

See individual submittals for full details  
GPI-17-G12

# Assembly Drawing

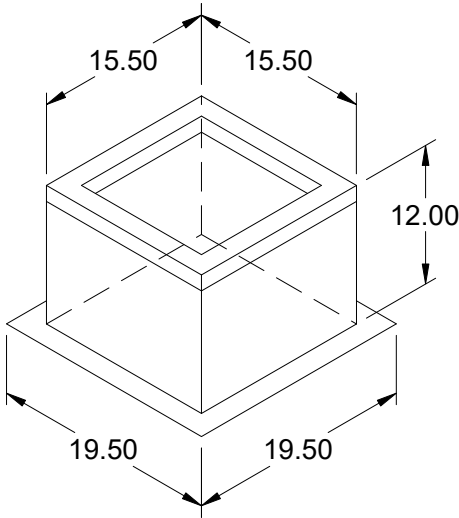
Type: Direct Drive Centrifugal Roof Exhaust Fan



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	1	GPI-17	Nominal	1.5	14	Yes	No Preference

#### Dimensions

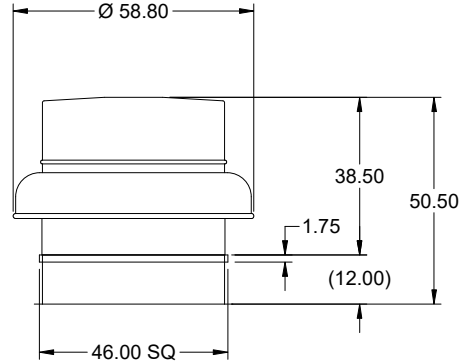
Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	17	17	15.5	15.5	12	12	16	16

\*May not be applicable

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

**Model: GB-330-7**  
Belt Drive Centrifugal Roof Exhaust Fan



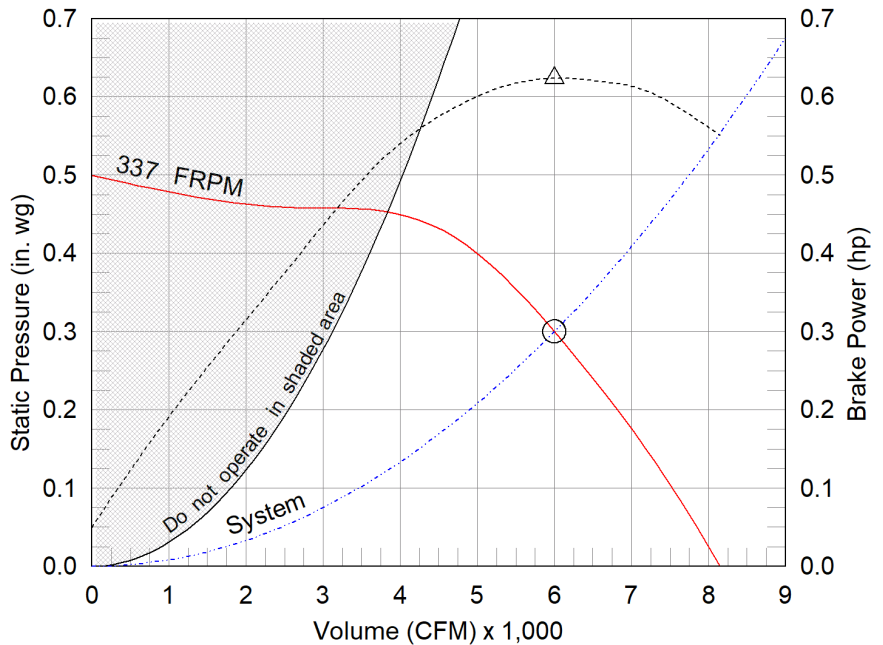
OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	160
Weight w/ Acc's (lb)	196
Weight w/ Acc's and Curb (lb)	240
Max T Motor Frame Size	215
Standard Curb Cap Size (in.)	46 x 46
Optional Damper (in.)	40 x 40
Roof Opening (in.)	42.5 x 42.5

Performance	
Requested Volume (CFM)	6,000
Actual Volume (CFM)	6,000
Total External SP (in. wg)	0.3
Fan RPM	337
Operating Power (hp)	0.62
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Drive Loss (%)	7.5
Tip Speed (ft/min)	3,179
Static Eff. (%)	49

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	955

Motor	
Motor Included	Yes
Size (hp)	3/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Efficiency Rating	Standard
Windings	1
NEC FLA* (Amps)	13.8
Min. Circuit Ampacity (MCA)	17.25
Max. Overcurrent Protection (MOP)	35
Short Circuit Current Rtg (SCCR)	5 kA



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

Coordinate with electrical.

**Notes:**

All dimensions shown are in units of in.  
\*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.  
MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones



## Model: GB-330-7

### Belt Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Curb cap with prepunched mounting holes - Motor and drives isolated on shock mounts - Birdscreen - Ball bearing motors - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearings meet or exceed temperature rating of fan - Static resistant belts - Corrosion resistant fasteners - Sizes 141 and larger have internal Lifting lugs

#### Selected Options & Accessories:

Standard Curb Cap Size - 46 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Birdscreen: Galvanized, nom. 84% Free Area  
Bearings with Grease Fittings, L10 life of 100,000 hrs (L50 avg. life 500,000 hrs)  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, WD-100-PB-40X40, Gravity Operated, Not Coated, Nominal Size

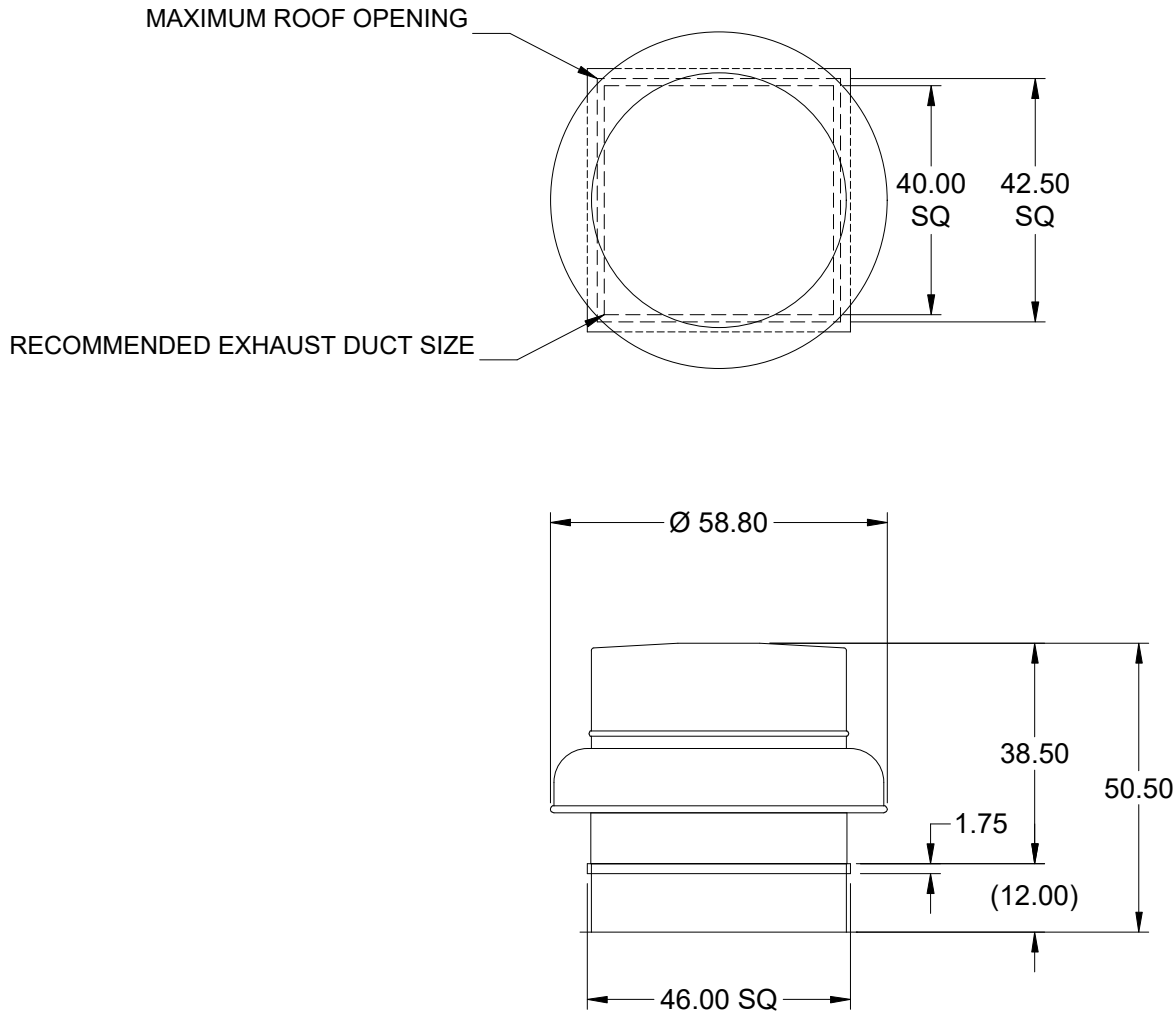
#### Selected Sub Marks

See individual submittals for full details  
GPI-46-40-G12

Fan shall energize when monitoring system indicates high level alarm.

# Assembly Drawing

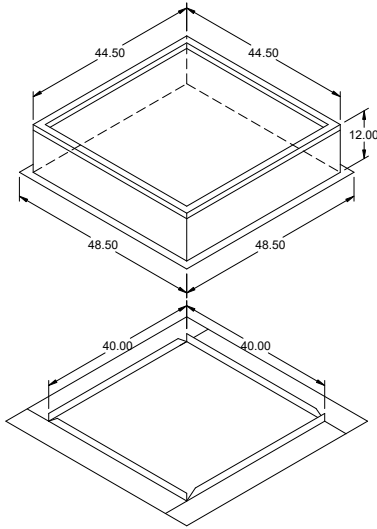
Type: Belt Drive Centrifugal Roof Exhaust Fan



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	1	GPI-46	Nominal	1.5	44	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	46	46	44.5	44.5	41	41	45	45

\*May not be applicable

#### Damper Tray

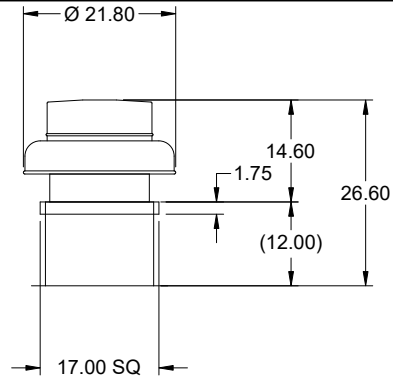
Damper Tray Width (in.)	Damper Tray Length (in.)
40	40

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

**Model: G-090-D**  
Direct Drive Centrifugal Roof Exhaust Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	23
Weight w/ Acc's (lb)	30
Weight w/ Acc's and Curb (lb)	44
Standard Curb Cap Size (in.)	17 x 17
Optional Damper (in.)	10 x 10
Roof Opening (in.)	13.5 x 13.5



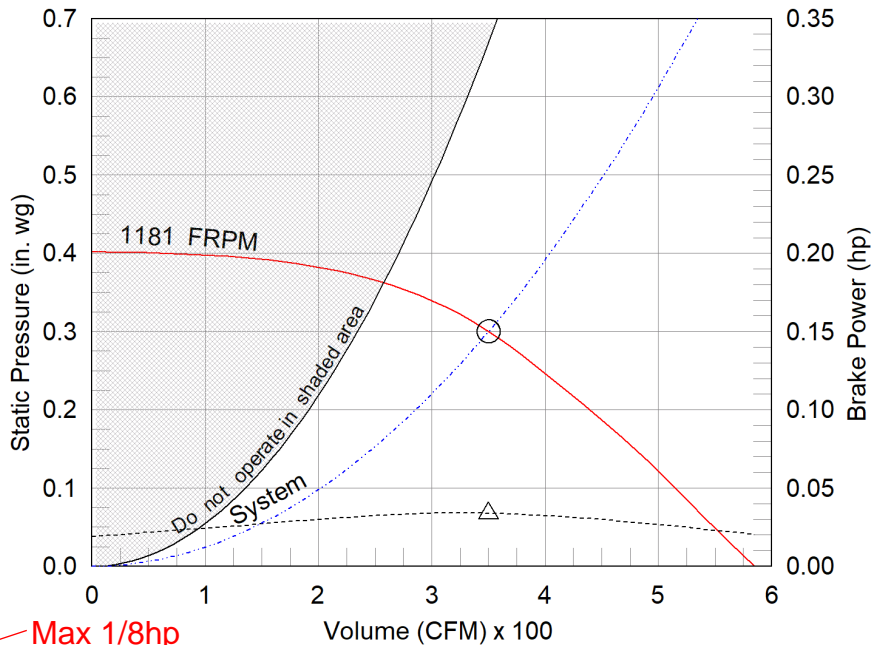
OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Performance	
Requested Volume (CFM)	350
Actual Volume (CFM)	350
Total External SP (in. wg)	0.3
Fan RPM	1181
Operating Power (hp)	0.03
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,363
Static Eff. (%)	49

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	500

Motor	
Motor Mounted	Yes
Size (hp)	1/15 (or greater)
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1550
Efficiency Rating	Standard
Windings	1

Coordinate with electrical.



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

**Notes:**

All dimensions shown are in units of in.  
\*Please consult factory for actual motor amp draw  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones



## Model: G-090-D

### Direct Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-300) wheel - Aluminum curb cap with prepunched mounting holes - Birdscreen - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

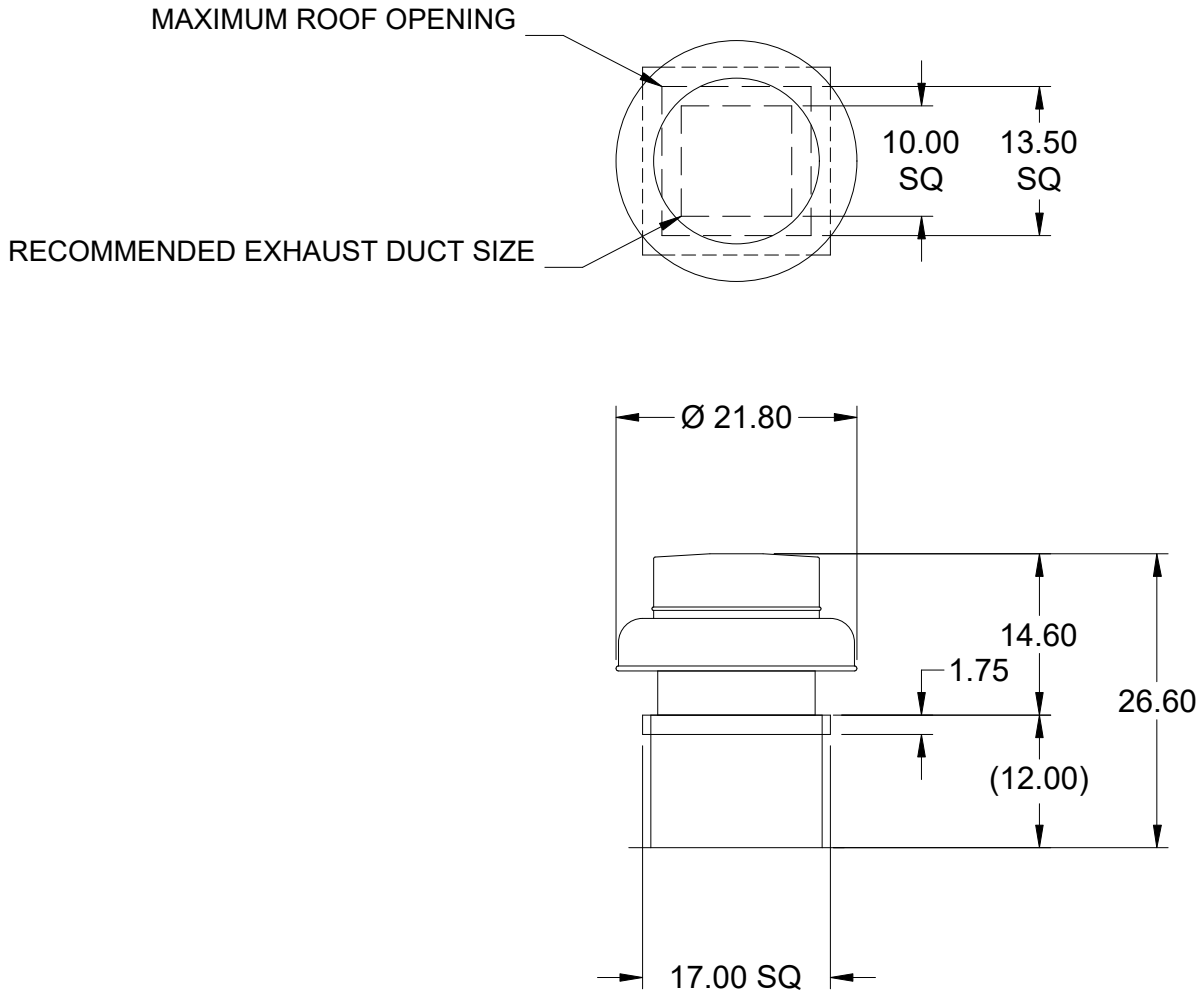
Standard Curb Cap Size - 17 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Solid State Speed Control, 6 Amp, Shipped With Unit  
Birdscreen: Galvanized, nom. 84% Free Area  
Composite Wheel Material  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, BD-100-PB-10X10, Gravity Operated, Not Coated,  
Nominal Size

#### Selected Sub Marks

See individual submittals for full details  
GPI-17-10-G12

# Assembly Drawing

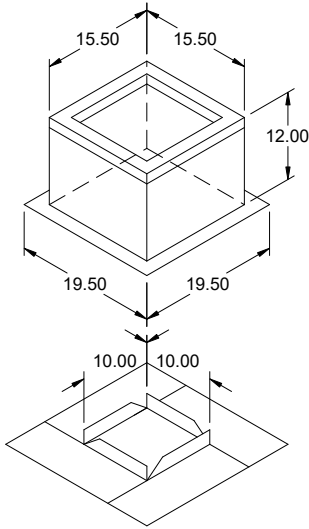
Type: Direct Drive Centrifugal Roof Exhaust Fan



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	1	GPI-17	Nominal	1.5	14	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	17	17	15.5	15.5	12	12	16	16

\*May not be applicable

#### Damper Tray

Damper Tray Width (in.)	Damper Tray Length (in.)
10	10

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

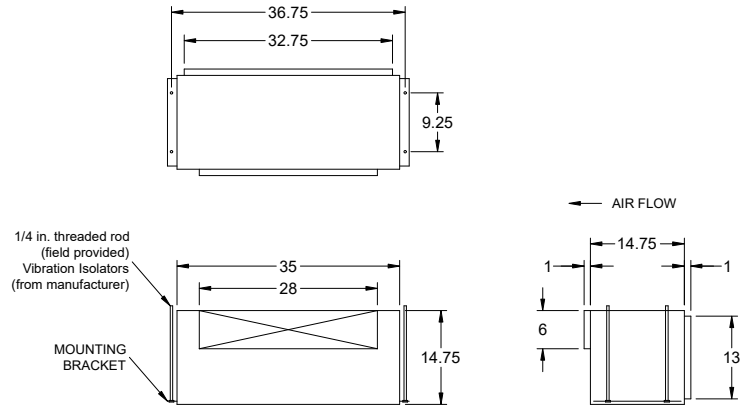
**Model: CSP-A1750**  
Inline Cabinet Fan

**Standard Construction Features:**

- Galvanized steel housing - Sound absorbing insulation - Outlet duct collar with spring loaded integral back draft damper - Forward curved wheel - Plug type disconnect - Adjustable mounting brackets - Square duct connection - Dual galvanized steel scroll design - Field rotatable discharge

**Selected Options & Accessories:**

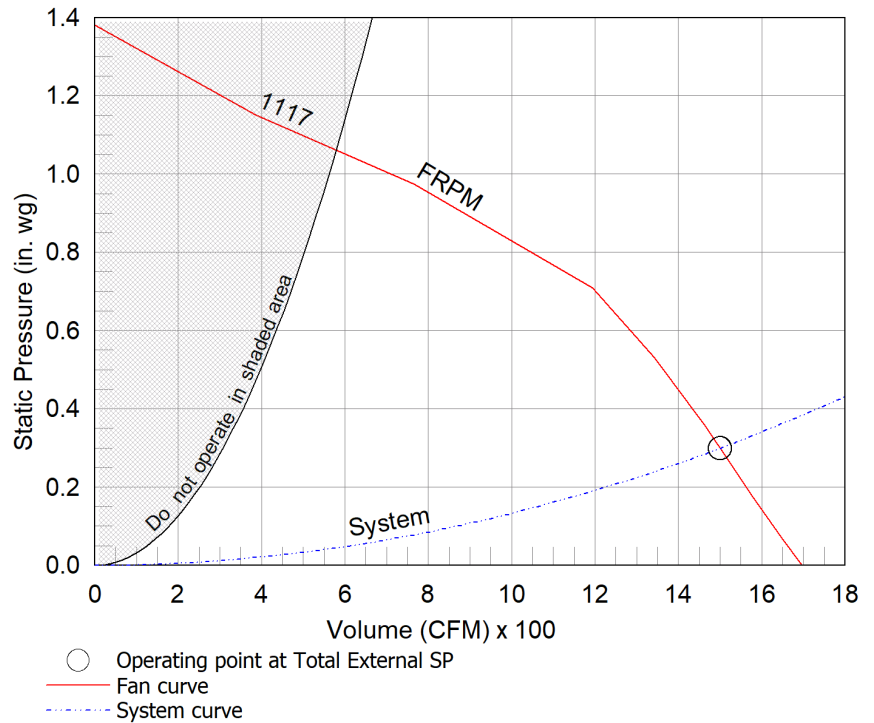
Motor rated for continuous use  
Motor with Thermal Overload  
Motor with CSA Approval  
Motor with 40 Degree C Ambient Temperature  
UL/cUL 507 Listed - Electric Fan  
Solid State Speed Control, 10 Amp, Shipped Loose  
Isolation Kit, (PN: VI KIT-SP/CSP), Shipped Loose  
Adjustable easy installation mounting bracket  
Aluminum Wheel Material



Fan shall energize when temperature rises above thermostat set point.

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	68
Weight w/ Acc's (lb)	70

Performance	
Requested Volume (CFM)	1,500
Actual Volume (CFM)	1,500
Total External SP (in. wg)	0.3
Fan RPM	1117
* FLA (A)	10.3
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Sones	4.0



Motor	
Motor Mounted	Yes
** Input Watts (W)	1153
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP

Coordinate with electrical.

**Notes:**

All dimensions shown are in units of in.  
\*FLA is approximate and will vary slightly with the motor.  
Sones - calculated using AMCA 301 at 5 ft  
\*\* Wattage is approximate and may vary between motors.

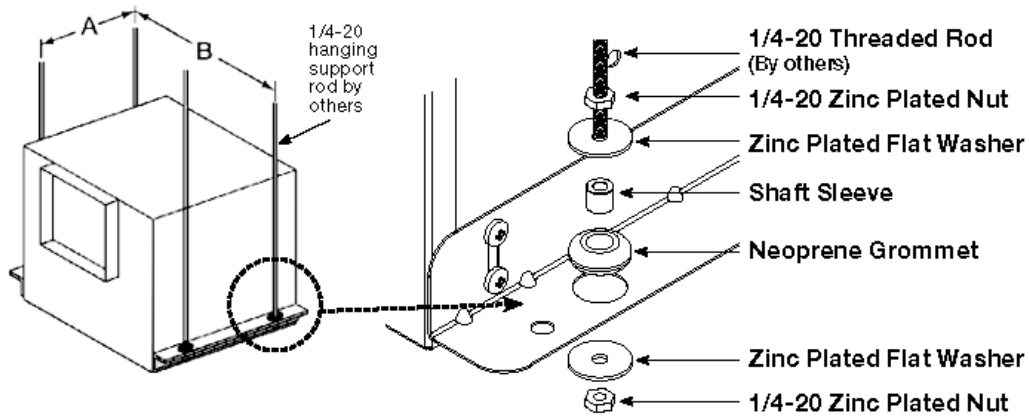


# Isolation Kit

Type: Hanging

## Standard Construction Features:

- Neoprene vibration isolation for hanging installation - Kit includes four isolators and all hardware necessary for mounting one unit except for the 0.25 in. x 20 in. threaded rod to be supplied by others - Fan mounting brackets include prepunched mounting holes for ease of installation



Unit Size	A	B
B50-B200	4 1/2 (114)	15 5/8 (397)
A50-A190	5 1/2 (140)	14 5/8 (371)
A200-A390	6 3/4 (171)	15 1/2 (394)
A410, A510, A710, A780	9 1/4 (235)	19 5/8 (498)
A700	5 1/2 (140)	25 1/8 (638)
A900 - A1050, A1410 - A1550	9 1/4 (235)	25 3/8 (645)
A1750, A2150	9 1/4 (235)	36 3/4 (933)
A3600	9 1/4 (235)	48 5/8 (1235)
All dimensions shown in inches (millimeters).		

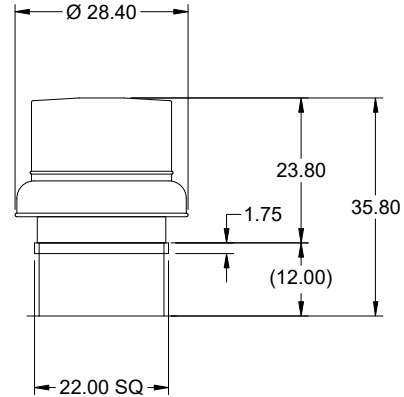
Description	Qty
Neoprene Grommets	4
1 x 32 Zinc Plated Nuts	8
Zinc Plated Flat Washers	8
3/8 x 3/16 Shaft Sleeves	4

**Model: G-140-B**  
Direct Drive Centrifugal Roof Exhaust Fan

Previously: G-143-B

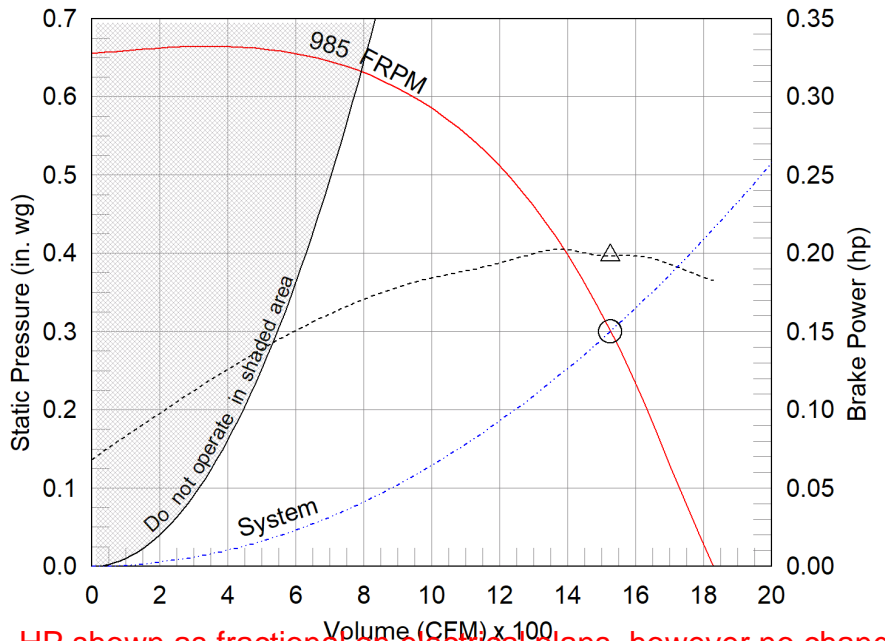
Quantity: 1

Dimensional	
Quantity	2
Weight w/o Acc's (lb)	53
Weight w/ Acc's (lb)	62
Weight w/ Acc's and Curb (lb)	81
Max T Motor Frame Size	145
Standard Curb Cap Size (in.)	22 x 22
Optional Damper (in.)	16 x 16
Roof Opening (in.)	18.5 x 18.5



OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Performance	
Requested Volume (CFM)	1,525
Actual Volume (CFM)	1,525
Total External SP (in. wg)	0.3
Fan RPM	985
Operating Power (hp)	0.2
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,772
Static Eff. (%)	36



Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	1,155

Motor	
Motor Mounted	Yes
Size (hp)	1/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1140
Efficiency Rating	Standard
Windings	1
Short Circuit Current Rtg (SCCR)	5 kA

HP shown as fractional on electrical plans, however no changes will be required.

- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

Coordinate with electrical.

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones

Notes:

All dimensions shown are in units of in.  
\*Please consult factory for actual motor amp draw  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft



## Model: G-140-B

### Direct Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-300) wheel - Aluminum curb cap with prepunched mounting holes - Birdscreen - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

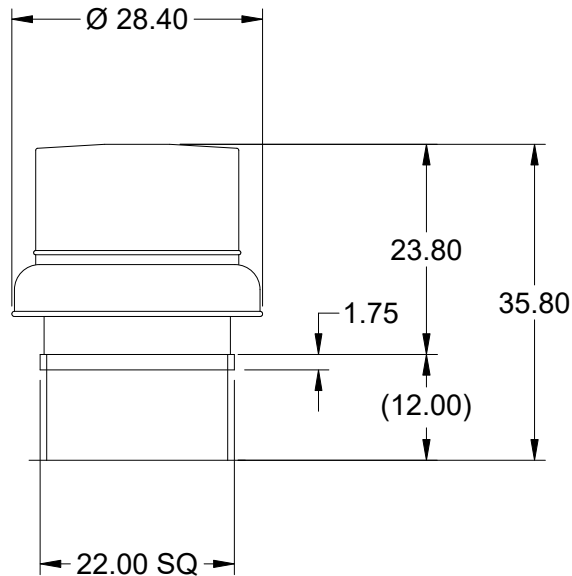
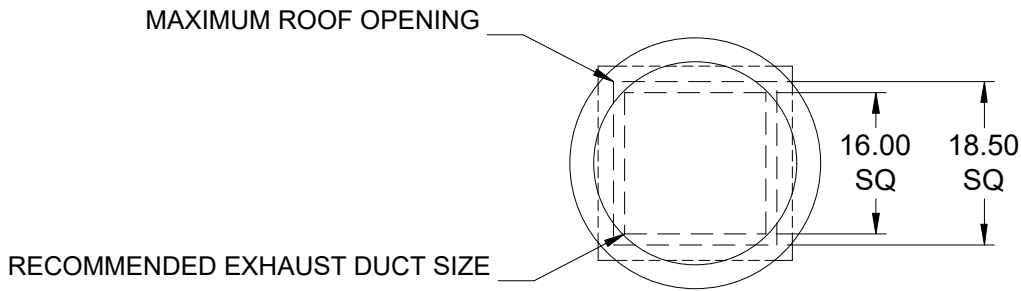
PSC Motor  
Standard Curb Cap Size - 22 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Solid State Speed Control, 6 Amp, Shipped With Unit  
Birdscreen: Galvanized, nom. 84% Free Area  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, BD-100-PB-16X16, Gravity Operated, Not Coated,  
Nominal Size

#### Selected Sub Marks

See individual submittals for full details  
GPI-22-16-G12

# Assembly Drawing

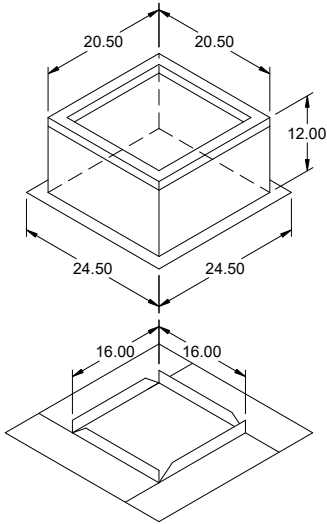
Type: Direct Drive Centrifugal Roof Exhaust Fan



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CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	2	GPI-22	Nominal	1.5	19	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	22	22	20.5	20.5	17	17	21	21

\*May not be applicable

#### Damper Tray

Damper Tray Width (in.)	Damper Tray Length (in.)
16	16

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

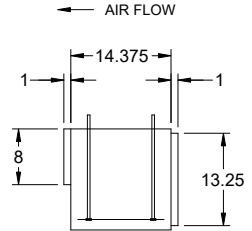
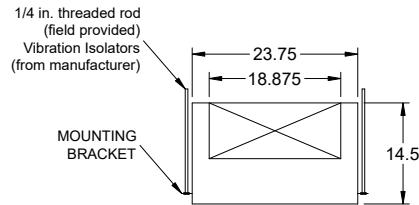
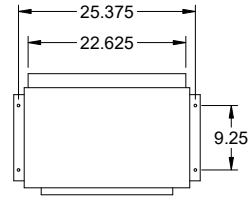
**Model: CSP-A1050**  
Inline Cabinet Fan

**Standard Construction Features:**

- Galvanized steel housing - Sound absorbing insulation - Outlet duct collar with integral spring loaded back draft damper - Forward curved wheel - Plug type disconnect - Adjustable mounting brackets - Square duct connection - Dual galvanized steel scroll design - Field rotatable discharge

**Selected Options & Accessories:**

Motor rated for continuous use  
Motor with Thermal Overload  
Motor with CSA Approval  
Motor with 40 Degree C Ambient Temperature  
UL/cUL 507 Listed - Electric Fan  
Solid State Speed Control, 10 Amp, Shipped Loose  
Isolation Kit, (PN: VI KIT-SP/CSP), Shipped Loose  
Adjustable easy installation mounting bracket  
Polypropylene Wheel Material

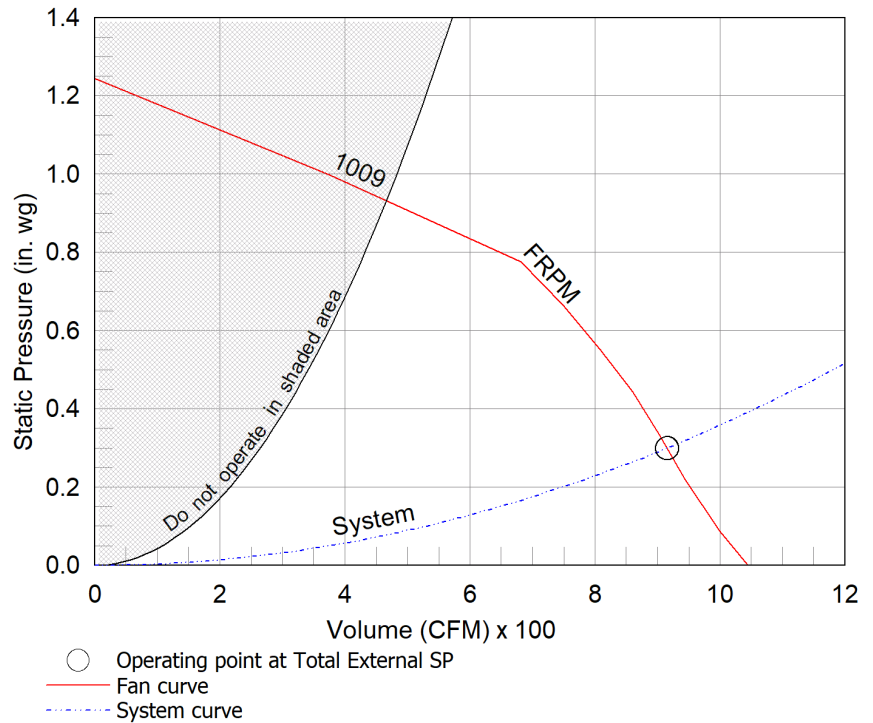


Dimensional	
Quantity	1
Weight w/o Acc's (lb)	59
Weight w/ Acc's (lb)	61

Performance	
Requested Volume (CFM)	915
Actual Volume (CFM)	915
Total External SP (in. wg)	0.3
Fan RPM	1009
* FLA (A)	5.0
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Sones	1.5

Motor	
Motor Mounted	Yes
** Input Watts (W)	467
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP

Coordinate with electrical.



**Notes:**

All dimensions shown are in units of in.  
\*FLA is approximate and will vary slightly with the motor.  
Sones - calculated using AMCA 301 at 5 ft  
\*\* Wattage is approximate and may vary between motors.

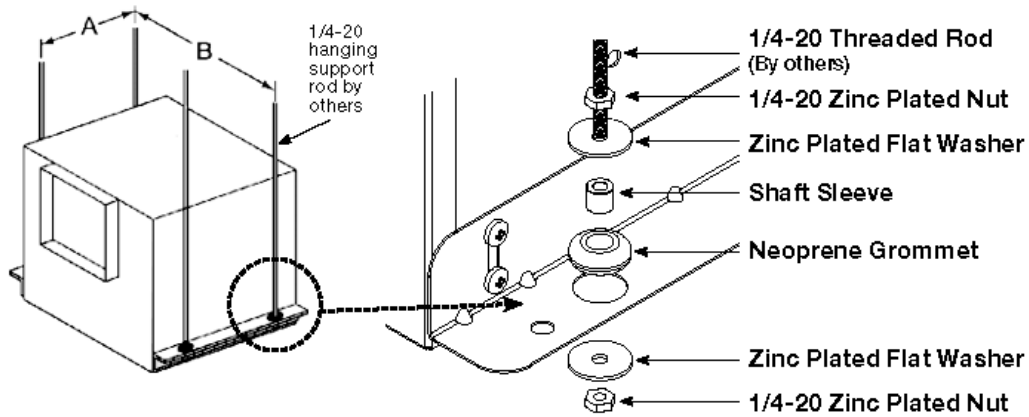


## Isolation Kit

Type: Hanging

### Standard Construction Features:

- Neoprene vibration isolation for hanging installation - Kit includes four isolators and all hardware necessary for mounting one unit except for the 0.25 in. x 20 in. threaded rod to be supplied by others - Fan mounting brackets include prepunched mounting holes for ease of installation

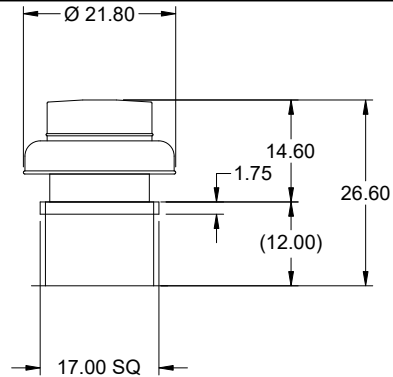


Unit Size	A	B
B50-B200	4 1/2 (114)	15 5/8 (397)
A50-A190	5 1/2 (140)	14 5/8 (371)
A200-A390	6 3/4 (171)	15 1/2 (394)
A410, A510, A710, A780	9 1/4 (235)	19 5/8 (498)
A700	5 1/2 (140)	25 1/8 (638)
A900 - A1050, A1410 - A1550	9 1/4 (235)	25 3/8 (645)
A1750, A2150	9 1/4 (235)	36 3/4 (933)
A3600	9 1/4 (235)	48 5/8 (1235)
All dimensions shown in inches (millimeters).		

Description	Qty
Neoprene Grommets	4
1 x 32 Zinc Plated Nuts	8
Zinc Plated Flat Washers	8
3/8 x 3/16 Shaft Sleeves	4

**Model: G-090-D**  
Direct Drive Centrifugal Roof Exhaust Fan

Dimensional	
Quantity	2
Weight w/o Acc's (lb)	23
Weight w/ Acc's (lb)	30
Weight w/ Acc's and Curb (lb)	44
Standard Curb Cap Size (in.)	17 x 17
Optional Damper (in.)	10 x 10
Roof Opening (in.)	13.5 x 13.5



OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

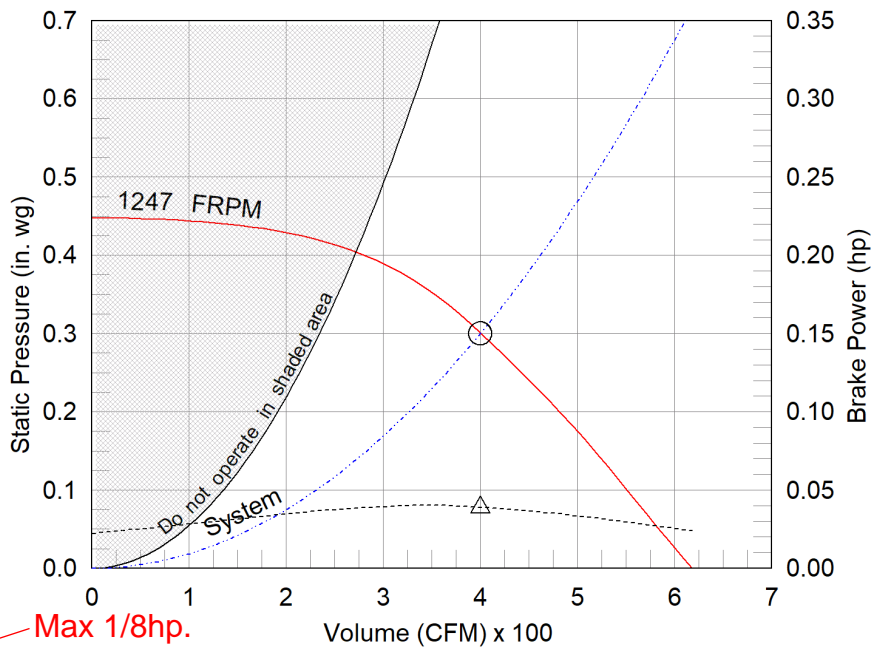
TEF-3: 400 CFM  
TEF-4: 800 CFM

Performance	
Requested Volume (CFM)	400
Actual Volume (CFM)	400
Total External SP (in. wg)	0.3
Fan RPM	1247
Operating Power (hp)	0.04
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,551
Static Eff. (%)	49

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	571

Motor	
Motor Mounted	Yes
Size (hp)	1/15 (or greater)
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1550
Efficiency Rating	Standard
Windings	1

Coordinate with electrical.



Max 1/8hp.

- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

**Notes:**

All dimensions shown are in units of in.  
\*Please consult factory for actual motor amp draw  
LWA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones



## Model: G-090-D

### Direct Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-300) wheel - Aluminum curb cap with prepunched mounting holes - Birdscreen - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

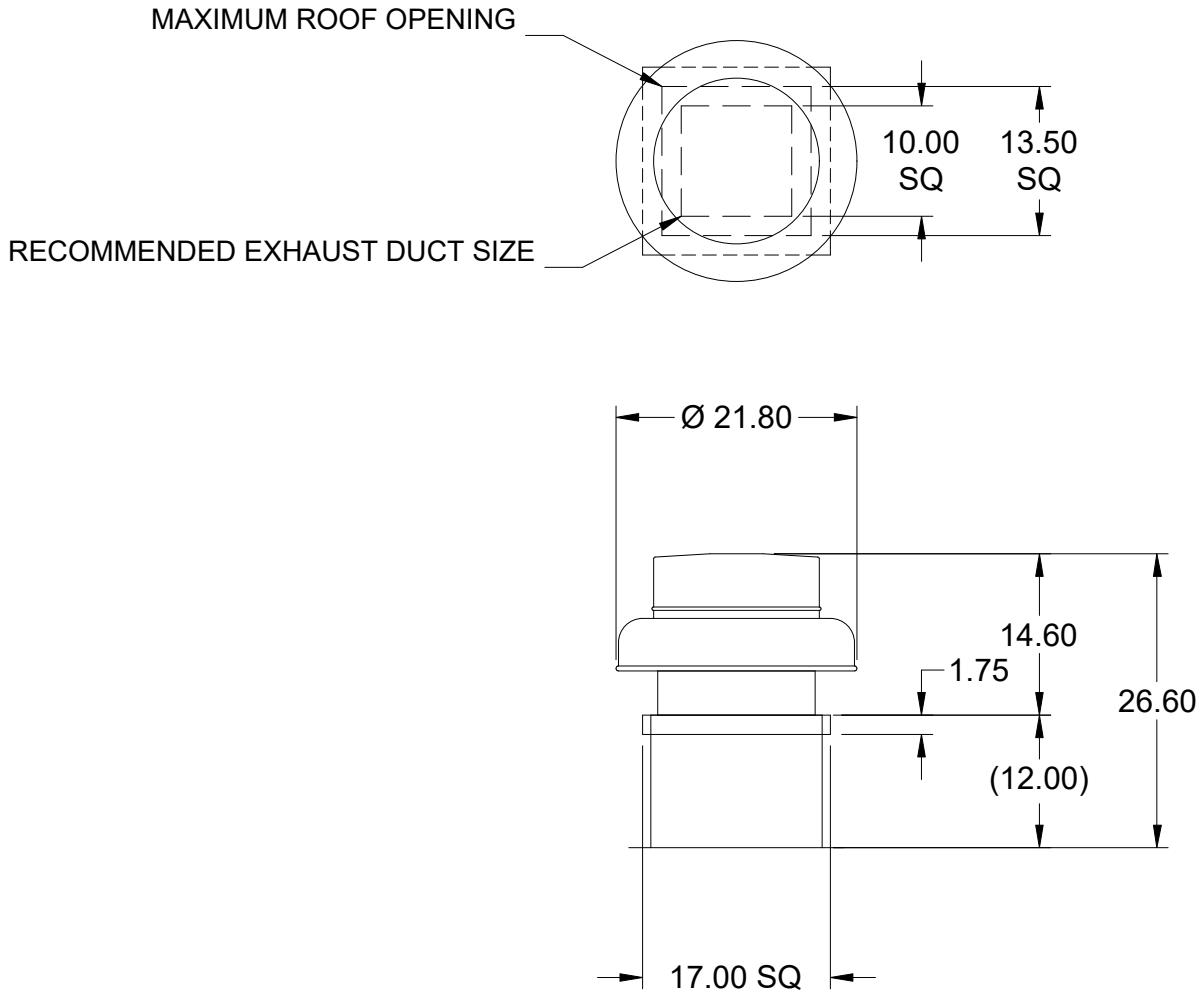
Standard Curb Cap Size - 17 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Solid State Speed Control, 6 Amp, Shipped With Unit  
Birdscreen: Galvanized, nom. 84% Free Area  
Composite Wheel Material  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, BD-100-PB-10X10, Gravity Operated, Not Coated,  
Nominal Size

#### Selected Sub Marks

See individual submittals for full details  
GPI-17-10-G12

# Assembly Drawing

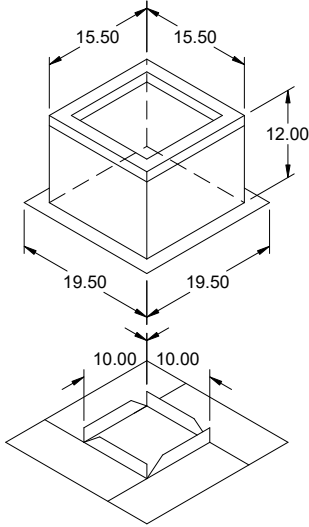
Type: Direct Drive Centrifugal Roof Exhaust Fan



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	2	GPI-17	Nominal	1.5	14	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	17	17	15.5	15.5	12	12	16	16

\*May not be applicable

#### Damper Tray

Damper Tray Width (in.)	Damper Tray Length (in.)
10	10

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

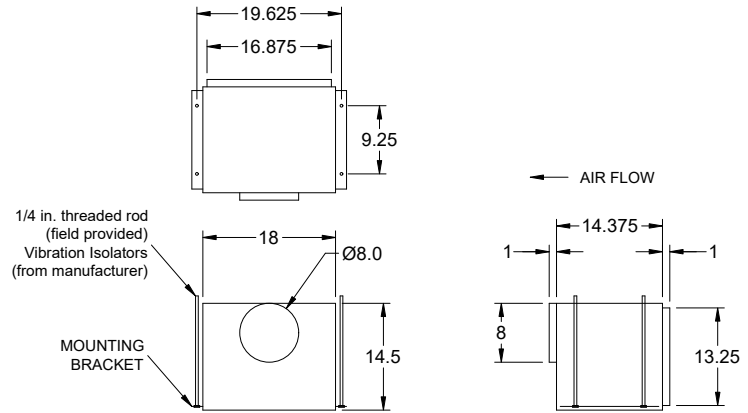
**Model: CSP-A510**  
Inline Cabinet Fan

**Standard Construction Features:**

- Galvanized steel housing - Sound absorbing insulation - Outlet duct collar with integral back draft damper - Forward curved wheel - Plug type disconnect - Adjustable mounting brackets - Square duct connection - Field rotatable discharge

**Selected Options & Accessories:**

Motor rated for continuous use  
Motor with Thermal Overload  
Motor with CSA Approval  
Motor with 40 Degree C Ambient Temperature  
UL/cUL 507 Listed - Electric Fan  
Solid State Speed Control, 6 Amp, Shipped Loose  
Round Duct Connector, (PN: RDC-8) Shipped Loose  
Isolation Kit, (PN: VI KIT-SP/CSP), Shipped Loose  
Adjustable easy installation mounting bracket  
Polypropylene Wheel Material

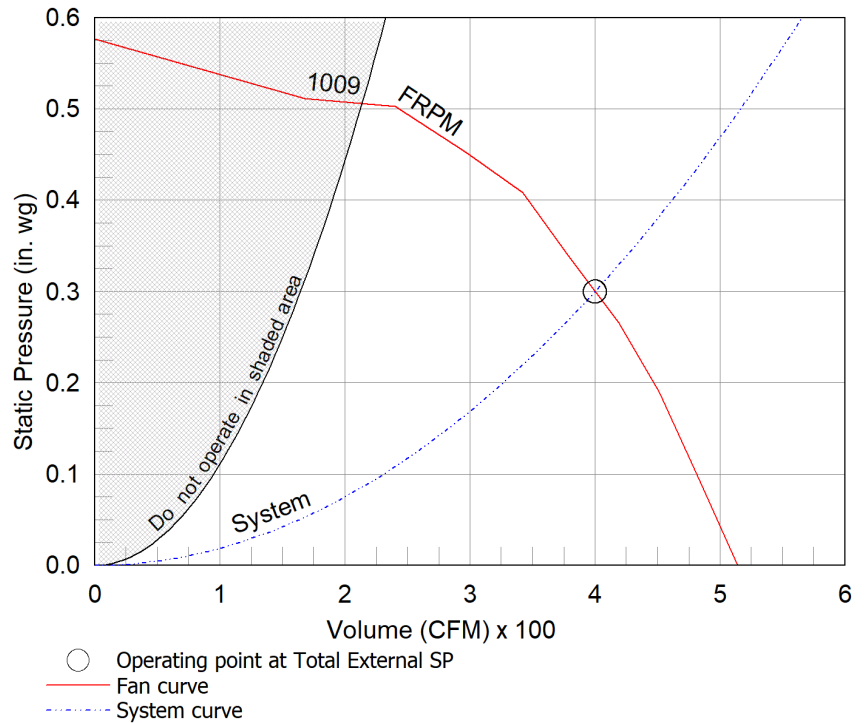


Dimensional	
Quantity	1
Weight w/o Acc's (lb)	36
Weight w/ Acc's (lb)	39

Performance	
Requested Volume (CFM)	400
Actual Volume (CFM)	400
Total External SP (in. wg)	0.3
Fan RPM	1009
* FLA (A)	3.3
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Sones	1.4

Motor	
Motor Mounted	Yes
** Input Watts (W)	167
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP

Coordinate with electrical.



**Notes:**

All dimensions shown are in units of in.  
\*FLA is approximate and will vary slightly with the motor.  
Sones - calculated using AMCA 301 at 5 ft  
\*\* Wattage is approximate and may vary between motors.

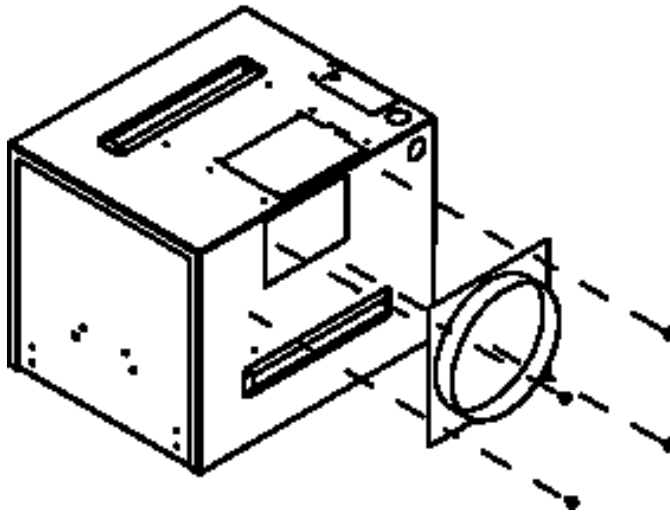


## Round Duct Connector

Model: RDC

### Standard Construction Features:

-Constructed of galvanized steel - Replaces the square discharge duct connector and damper using the existing mounting holes



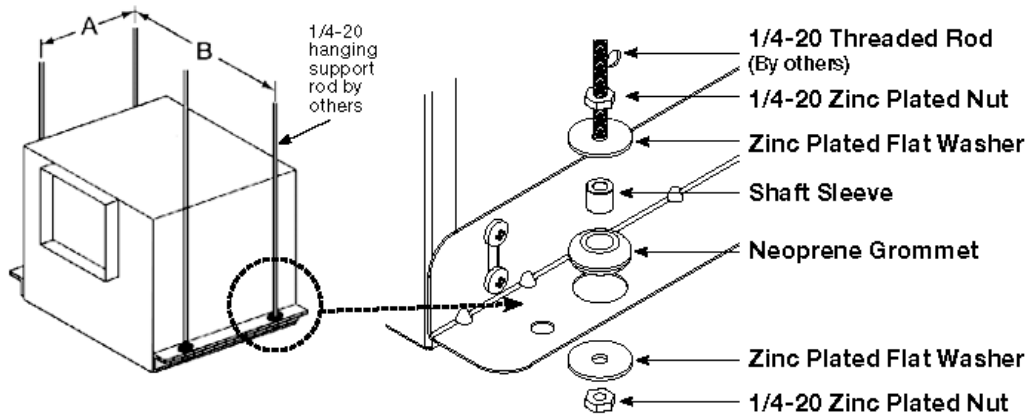
Notes: All dimensions shown are in units of in.

# Isolation Kit

Type: Hanging

## Standard Construction Features:

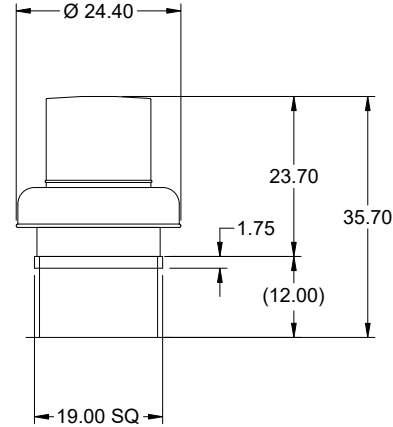
- Neoprene vibration isolation for hanging installation - Kit includes four isolators and all hardware necessary for mounting one unit except for the 0.25 in. x 20 in. threaded rod to be supplied by others - Fan mounting brackets include prepunched mounting holes for ease of installation



Unit Size	A	B
B50-B200	4 1/2 (114)	15 5/8 (397)
A50-A190	5 1/2 (140)	14 5/8 (371)
A200-A390	6 3/4 (171)	15 1/2 (394)
A410, A510, A710, A780	9 1/4 (235)	19 5/8 (498)
A700	5 1/2 (140)	25 1/8 (638)
A900 - A1050, A1410 - A1550	9 1/4 (235)	25 3/8 (645)
A1750, A2150	9 1/4 (235)	36 3/4 (933)
A3600	9 1/4 (235)	48 5/8 (1235)
All dimensions shown in inches (millimeters).		

Description	Qty
Neoprene Grommets	4
1 x 32 Zinc Plated Nuts	8
Zinc Plated Flat Washers	8
3/8 x 3/16 Shaft Sleeves	4

**Model: G-099-A**  
Direct Drive Centrifugal Roof Exhaust Fan



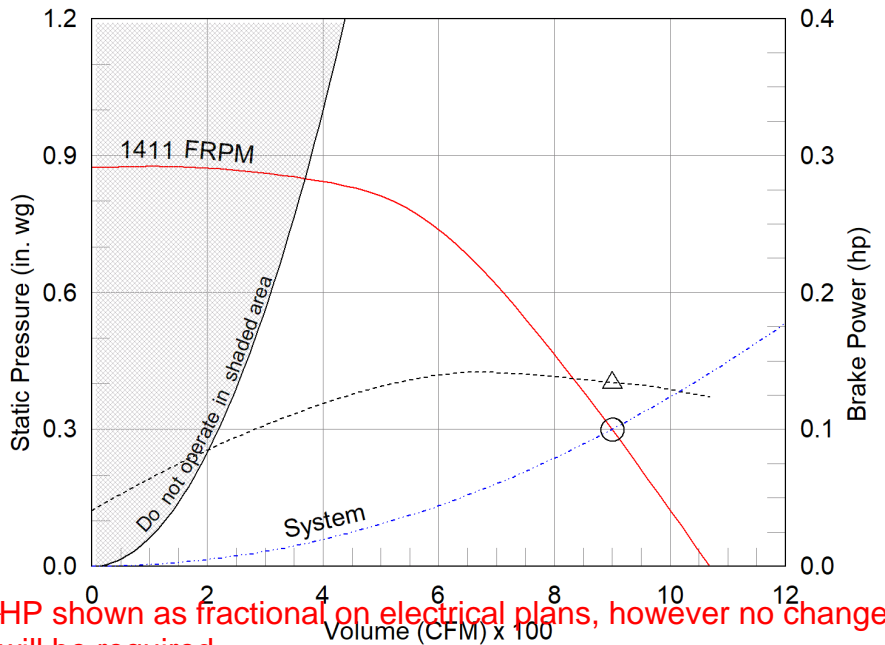
OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	43
Weight w/ Acc's (lb)	51
Weight w/ Acc's and Curb (lb)	67
Max T Motor Frame Size	56
Standard Curb Cap Size (in.)	19 x 19
Optional Damper (in.)	12 x 12
Roof Opening (in.)	15.5 x 15.5

Performance	
Requested Volume (CFM)	900
Actual Volume (CFM)	900
Total External SP (in. wg)	0.3
Fan RPM	1411
Operating Power (hp)	0.13
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	4,133
Static Eff. (%)	32

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	938

Motor	
Motor Mounted	Yes
Size (hp)	1/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Efficiency Rating	Standard
Windings	1
NEC FLA* (Amps)	5.8
Min. Circuit Ampacity (MCA)	7.25
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA



HP shown as fractional on electrical plans, however no changes will be required.

- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

Coordinate with electrical.

**Notes:**

All dimensions shown are in units of in.  
\*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.  
MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones



## Model: G-099-A

### Direct Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-300) wheel - Aluminum curb cap with prepunched mounting holes - Birdscreen - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

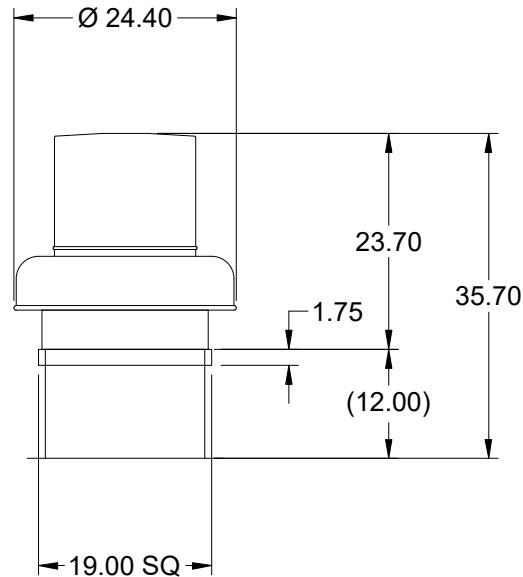
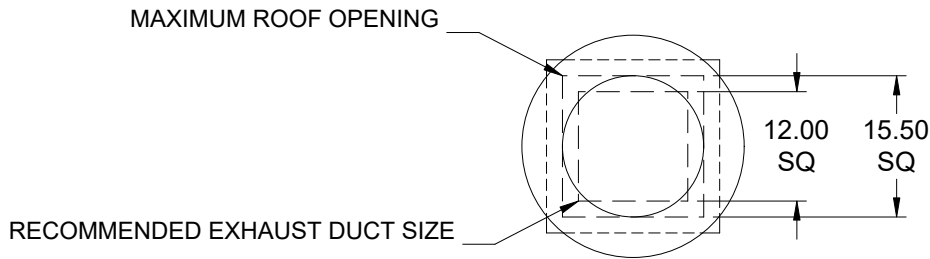
PSC Motor  
Standard Curb Cap Size - 19 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle,  
Junction Box Mounted & Wired  
Solid State Speed Control, 6 Amp, Shipped With Unit  
Birdscreen: Galvanized, nom. 84% Free Area  
Conduit Chase Qty 1  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, BD-100-PB-12X12, Gravity Operated, Not Coated,  
Nominal Size

#### Selected Sub Marks

See individual submittals for full details  
GPI-19-12-G12

# Assembly Drawing

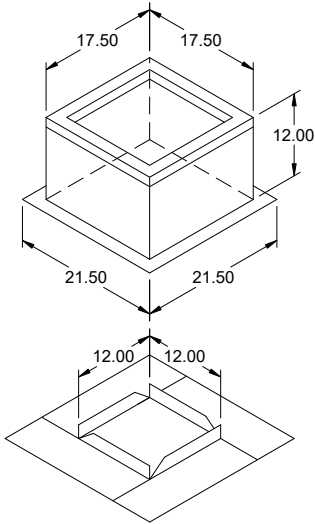
Type: Direct Drive Centrifugal Roof Exhaust Fan



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR  
HINGE BASE.

Notes: All dimensions shown are in units of in..



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	1	GPI-19	Nominal	1.5	16	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	19	19	17.5	17.5	14	14	18	18

\*May not be applicable

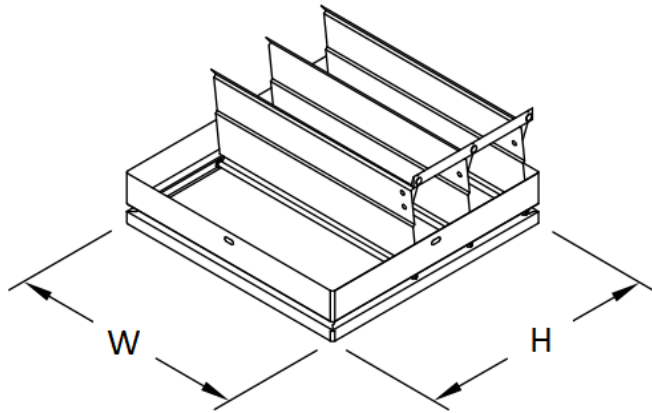
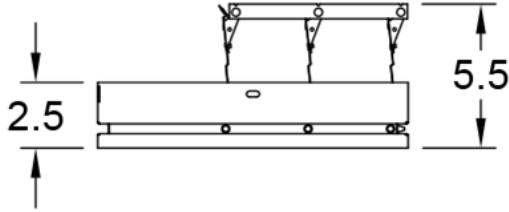
#### Damper Tray

Damper Tray Width (in.)	Damper Tray Length (in.)
12	12

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

**Horizontal Mount Exhaust Damper**  
Model: BD-100



**Standard Construction Features:**

- Model BD-100 is a horizontal mount exhaust damper (air flow up) and is constructed of 24 ga galvanized steel with pre-punched mounting holes - Damper blades are 0.016 in. roll formed aluminum with vinyl seals on the closing edge, and spring assisted for ease of opening - Axle/bearing is constructed of fiberglass reinforced nylon



Greenheck Fan Corporation certifies that the models BD-100 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance Ratings.

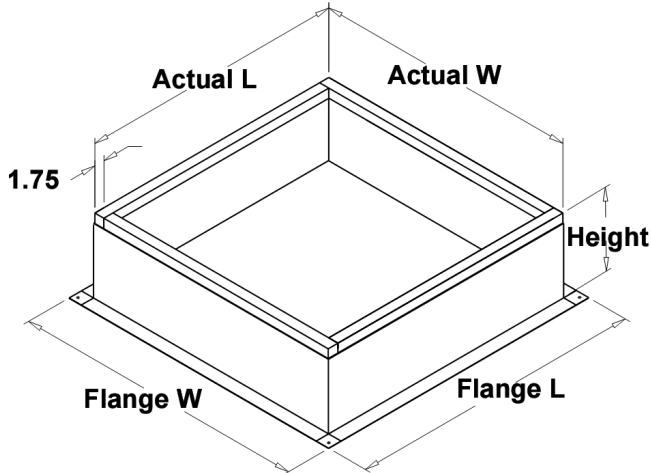
**Damper Configuration:**

ID #:	Tag:	Quantity:	W (in.):	H (in.):	Act Qty:	Actuator Model:
7	EF-2	1	10	10	0	
15	EF-4	1	10	10	0	
19	TEF-1	2	16	16	0	
24	TEF-3,4	2	10	10	0	
28	TEF-6	1	12	12	0	

Notes: All dimensions shown are in units of in.  
Width And height furnished approximately 0.25 in. undersize

Roof Curb  
Model: GPI

**Standard Construction Features:**



- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure
- Constructed of either 18 ga galvanized steel or 0.064 in. aluminum
- Straight Sided without a cant
- 2 in. mounting flange
- 3 lb density insulation
- Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments.

**Notes:**

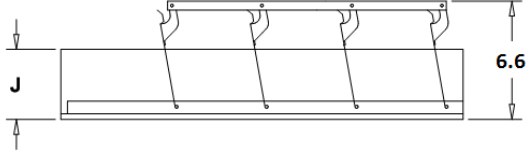
- The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in..
- The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size.
- The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension.
- Damper Tray is optional and must be specified. Tray size is same as damper size.
- Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

**Roof Curb Configuration:**

ID #:	Tag:	Qty:	Curb Cap W x L:	Actual W x L:	Flange W:	Flange L:	Height:	Step Hgt:	Damper Tray W x L:
2	EF-A	2	30 x 30	28.5 x 28.5	32.5	32.5	12	N/A	24 x 24
5	EF-1	1	46 x 46	44.5 x 44.5	48.5	48.5	12	N/A	40 x 40
7	EF-2	1	17 x 17	15.5 x 15.5	19.5	19.5	12	N/A	x
11	EF-3	1	46 x 46	44.5 x 44.5	48.5	48.5	12	N/A	40 x 40
15	EF-4	1	17 x 17	15.5 x 15.5	19.5	19.5	12	N/A	10 x 10
19	TEF-1	2	22 x 22	20.5 x 20.5	24.5	24.5	12	N/A	16 x 16
24	TEF-3,4	2	17 x 17	15.5 x 15.5	19.5	19.5	12	N/A	10 x 10
28	TEF-6	1	19 x 19	17.5 x 17.5	21.5	21.5	12	N/A	12 x 12

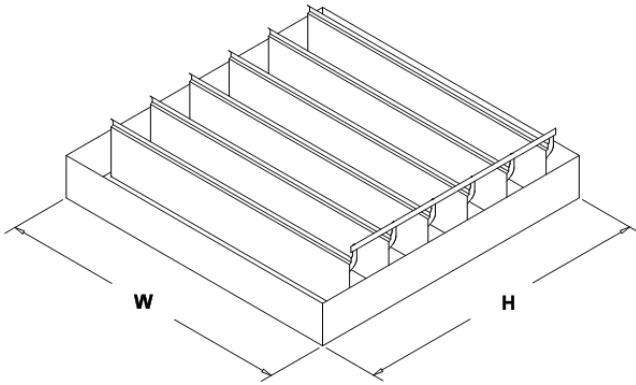
Notes: All dimensions shown are in units of in.

**Horizontal Mount Exhaust Damper**  
Model: WD-100



**Standard Construction Features:**

- Model WD-100 is a horizontal mount exhaust damper (air flow up) and is constructed of 18 ga galvanized steel with pre-punched mounting holes - Damper blades are 0.025 in. roll formed aluminum with vinyl seals on the closing edge, and spring assisted for ease of opening - Steel axles are 0.188 in. diameter zinc plated mounted in nylon bushings - Synthetic axle bearings



**Damper Configuration:**

ID #:	Tag:	Quantity:	W (in.):	H (in.):	J (in.):	Act Qty:	Actuator Model:
2	EF-A	2	24	24	2.5	0	
5	EF-1	1	40	40	3.5	0	
11	EF-3	1	40	40	3.5	0	

Notes: All dimensions shown are in units of in.  
Width And height furnished approximately 0.125 in. undersize