

SUBMITTALS

Greenheck Fans & Vents

Job Name: **Ossur Tenant Improvement – Beachline Commerce Park**

Location: **Orlando, FL**

Contractor: **Air Temp of Celebration**

Engineer: **C4 Architecture**

Date: **September 22, 2022**

Submitted By: **Jason Blanton**

Stan Weaver & Company
3663 All American Blvd.
Orlando, FL 32810
(407) 581-6940
(407) 581-6950 (FAX)
www.stanweaver.com



Model: SP-B110ES

Ceiling Exhaust Fan

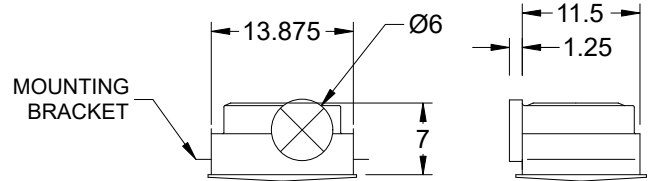
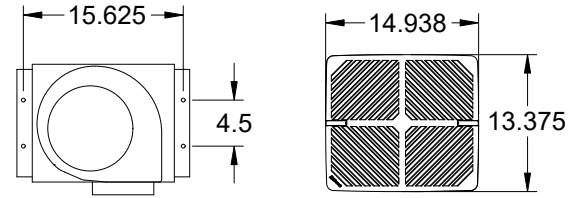
Tags: EF-1 EF-2 EF-3

Standard Construction Features:

- Corrosion resistant galvanized steel scroll and housing - White designer non-yellowing grille - Round outlet duct collar with integral backdraft damper - Single inlet forward curved wheel - Plug type disconnect - Adjustable mounting brackets

Selected Options & Accessories:

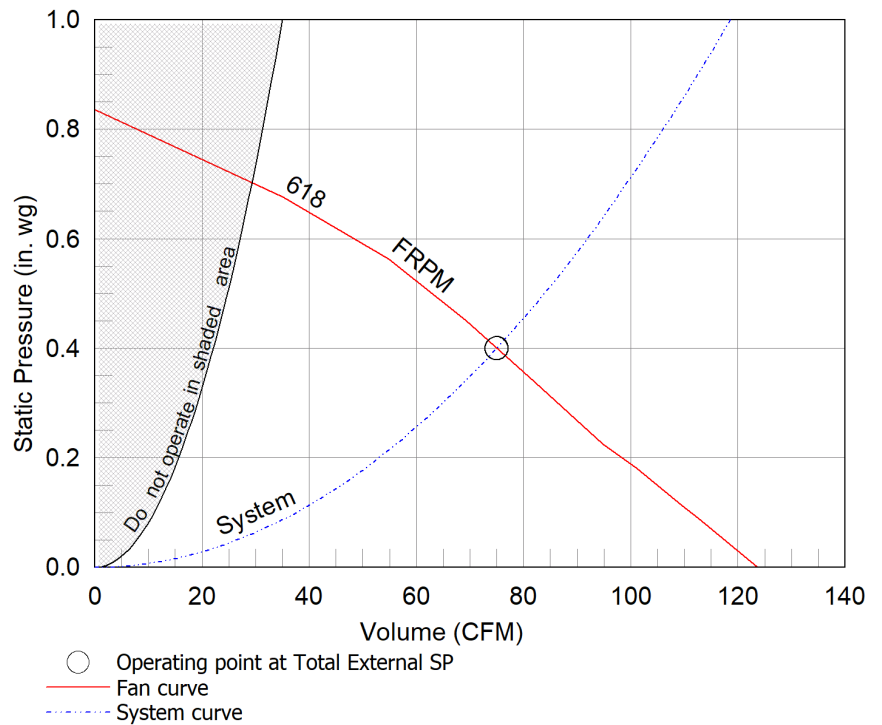
Motor rated for continuous use
 Motor with Thermal Overload
 Motor with CSA Approval
 Motor with 40 Degree C Ambient Temperature
 UL/cUL 507 Listed - Electric Fan
 Solid State Speed Control, 6 Amp, Shipped Loose
 Round Duct Connection
 Adjustable easy installation mounting bracket
 Energy Star Certified
 Standard Grille
 Polypropylene Wheel Material
 Can Be Used to Comply with: ASHRAE 62.2, California Title 24, and Washington State Energy Code



Dimensional	
Quantity	3
Weight w/o Acc's (lb)	10
Weight w/ Acc's (lb)	11

Performance	
Requested Volume (CFM)	75
Actual Volume (CFM)	75
Total External SP (in. wg)	0.4
Fan RPM	618
* FLA (A)	0.27
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Sones	2.5

Motor	
Motor Mounted	Yes
** Input Watts (W)	30
Voltage/Cycle/Phase	115/60/1
Enclosure	TEAO



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.

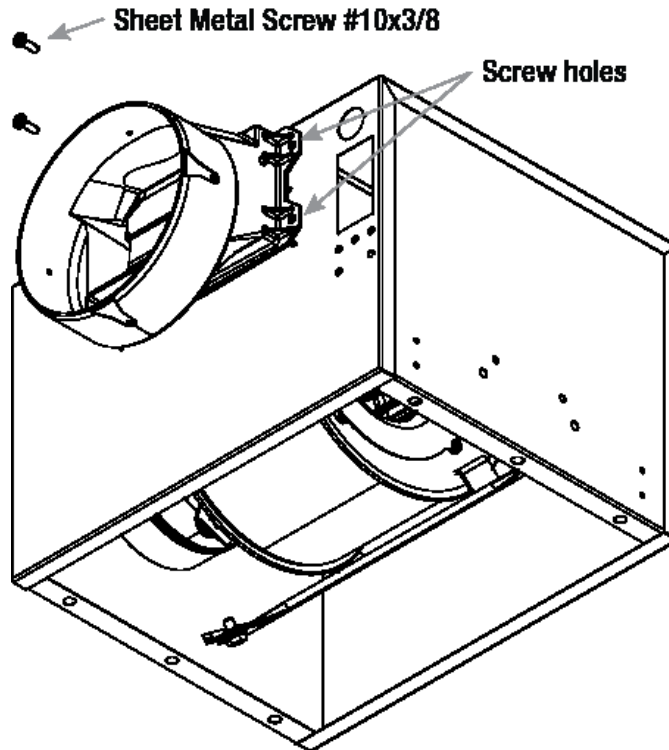


Round Duct Connector

Model: RDC

Standard Construction Features:

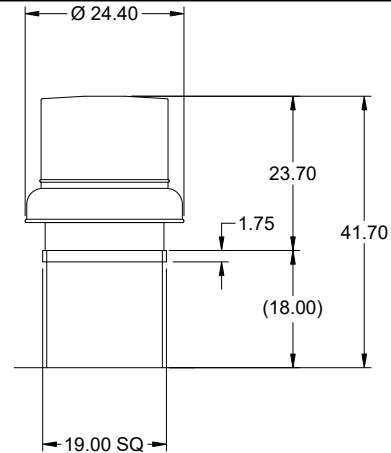
-Constructed of Polypropylene - Replaces the square discharge duct connector and damper using the existing mounting holes



Notes: All dimensions shown are in units of in.

Model: GB-099-4
Belt Drive Centrifugal Roof Exhaust Fan

Previously: GB-091-4



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	53
Weight w/ Acc's (lb)	60
Weight w/ Acc's and Curb (lb)	95
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)	500
Actual Volume (CFM)	500
Total External SP (in. wg)	0.833
Fan RPM	1435
Operating Power (hp)	0.16
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Drive Loss (%)	16.4
Tip Speed (ft/min)	4,203
Static Eff. (%)	48

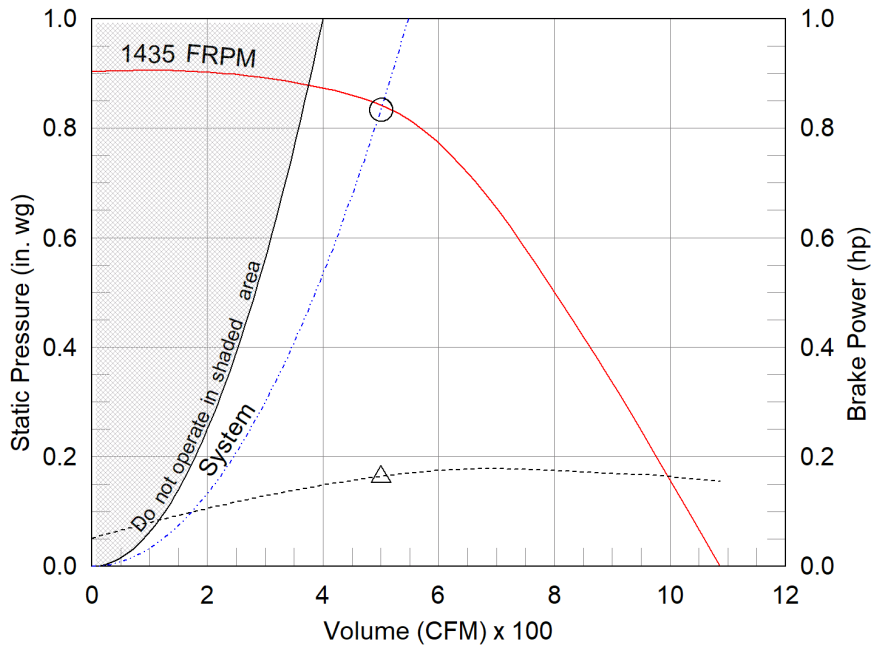
Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	521

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

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	72	73	73	65	59	59	53	48	68	57	8.6

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	0.75 in. wg
Damper	0.083 in. wg
Total External SP	0.833 in. wg

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



Model: GB-099-4

Belt Drive Centrifugal Roof Exhaust Fan

Standard Construction Features:

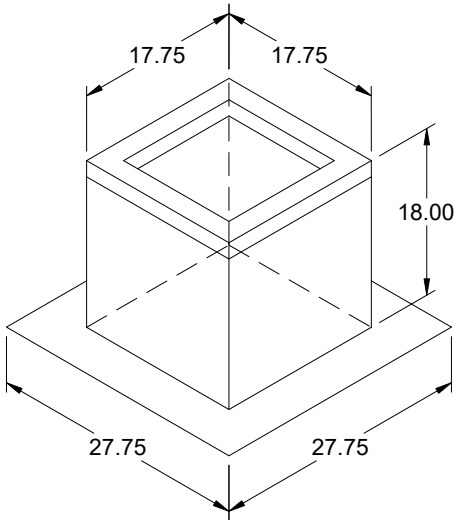
- Aluminum housing - Backward inclined aluminum wheel - Curb cap with prepunched mounting holes - Motor and drives isolated on shock mounts - Birdscreen - Ball bearing motors - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearings meet or exceed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

Selected Options & Accessories:

Motor with Thermal Overload
Standard Curb Cap Size - 19 Square
UL/cUL 705 Listed - "Power Ventilators"
Switch, NEMA-1, Toggle, Shipped with Unit
Junction Box Mounted & Wired
High Wind Rated (+/- 150 PSF Rating)
Florida Product Approval #FL13225.1 & Miami-Dade NOA #21-1129.02
Birdscreen: Galvanized, nom. 84% Free Area
Unit Warranty: 1 Yr (Standard)
Damper Shipped Loose, BD-100-PB-12X12, Gravity Operated, Not Coated

Selected Sub Marks

See individual submittals for full details
GPF-19-G18



Model: GPF

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. or 5 in. mounting flange - 1 in. thick 3 lb density insulation - Height - Available from 8 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	GPF-19	Nominal	1.25	35	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.)	Flange Width (in.)	Flange Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
18	19	19	17.75	17.75	14.25	14.25	27.75	27.75	18	18

*May not be applicable

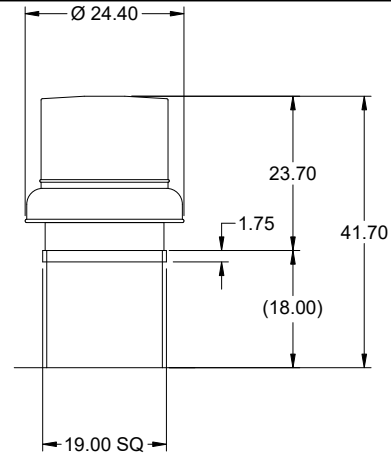
Accessories

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

Model: GB-099-4

Belt Drive Centrifugal Roof Exhaust Fan

Previously: GB-091-4



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	53
Weight w/ Acc's (lb)	60
Weight w/ Acc's and Curb (lb)	95
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)	655
Actual Volume (CFM)	655
Total External SP (in. wg)	0.869
Fan RPM	1541
Operating Power (hp)	0.21
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Drive Loss (%)	13.8
Tip Speed (ft/min)	4,515
Static Eff. (%)	50

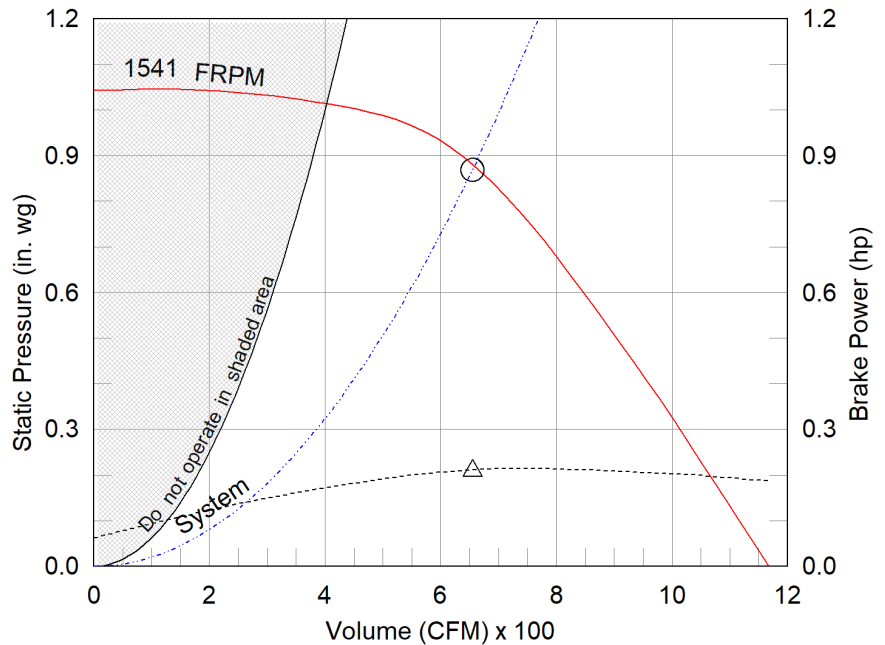
Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	682

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

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	73	76	75	67	61	61	56	51	71	59	9.9

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	0.75 in. wg
Damper	0.119 in. wg
Total External SP	0.869 in. wg

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



Model: GB-099-4

Belt Drive Centrifugal Roof Exhaust Fan

Standard Construction Features:

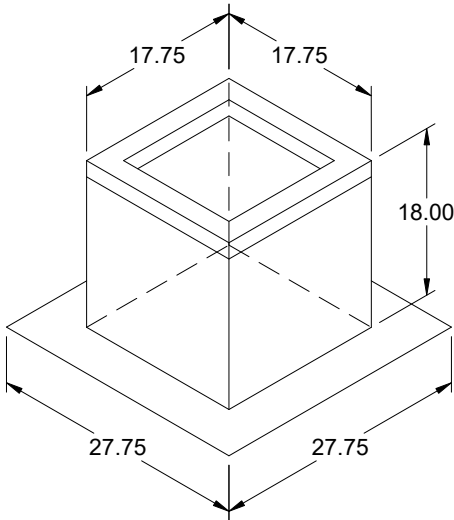
- Aluminum housing - Backward inclined aluminum wheel - Curb cap with prepunched mounting holes - Motor and drives isolated on shock mounts - Birdscreen - Ball bearing motors - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearings meet or exceed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

Selected Options & Accessories:

Motor with Thermal Overload
Standard Curb Cap Size - 19 Square
UL/cUL 705 Listed - "Power Ventilators"
Switch, NEMA-1, Toggle, Shipped with Unit
Junction Box Mounted & Wired
High Wind Rated (+/- 150 PSF Rating)
Florida Product Approval #FL13225.1 & Miami-Dade NOA #21-1129.02
Birdscreen: Galvanized, nom. 84% Free Area
Unit Warranty: 1 Yr (Standard)
Damper Shipped Loose, BD-100-PB-12X12, Gravity Operated, Not Coated

Selected Sub Marks

See individual submittals for full details
GPF-19-G18



Model: GPF

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. or 5 in. mounting flange - 1 in. thick 3 lb density insulation - Height - Available from 8 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	GPF-19	Nominal	1.25	35	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.)	Flange Width (in.)	Flange Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
18	19	19	17.75	17.75	14.25	14.25	27.75	27.75	18	18

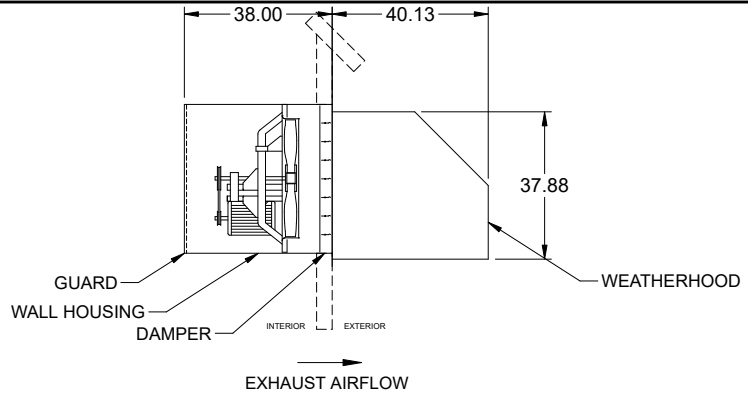
*May not be applicable

Accessories

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

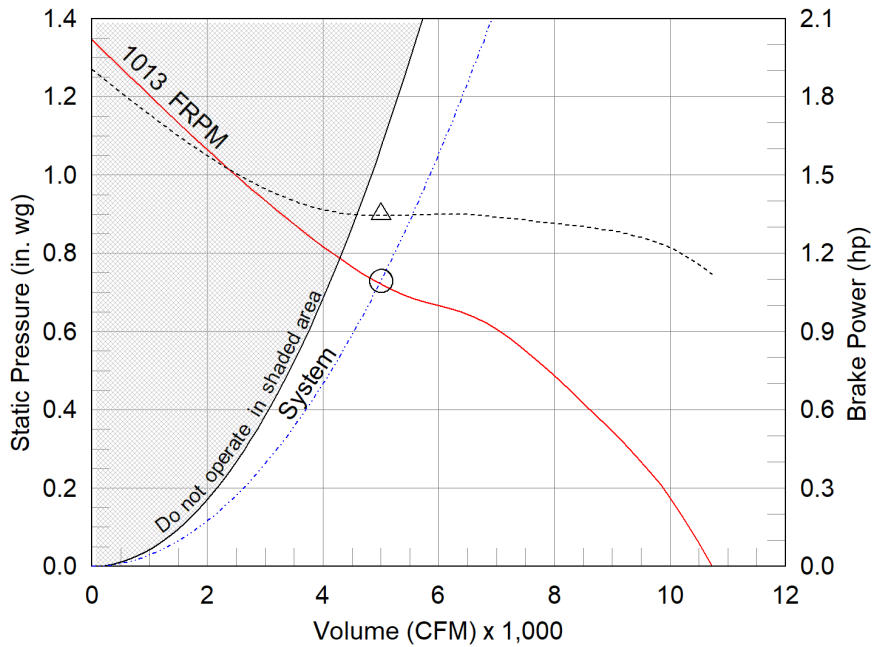
Model: SBE-3H30-15

Sidewall Belt Drive Fan
Motor Access From Int. of Bldg.



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	119
Weight w/ Acc's (lb)	361
Max T Motor Frame Size	184
Optional Damper (in.)	32 x 32
Wall Opening (in.)	39.75 x 39.75

Performance	
Requested Volume (CFM)	5,000
Actual Volume (CFM)	5,000
Total External SP (in. wg)	0.73
Fan RPM	1013
Operating Power (hp)	1.35
Elevation (ft)	105
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Drive Loss (%)	5.5
Tip Speed (ft/min)	7,953
Static Eff. (%)	45



Motor	
Motor Mounted	Yes
Size (hp)	1 1/2
Voltage/Cycle/Phase	460/60/3
Enclosure	ODP
Motor RPM	1725
Efficiency Rating	Standard
Windings	1
NEC FLA* (Amps)	3

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

Static Pressure Calculations

External SP	0.49 in. wg
Damper	0.113 in. wg
Wall Housing	0.03 in. wg
Weatherhood	0.097 in. wg
Total External SP	0.73 in. wg

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 AMCA 301 at 5 ft

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	88	88	92	90	84	80	75	72	91	79	30



Model: SBE-3H30-15

Sidewall Belt Drive Fan

Standard Construction Features:

- Galvanized steel fan panel - Die formed, galvanized steel drive frame assembly
- Fabricated steel propeller for Levels 1 and 2, welded and painted steel for Level 3 - Adjustable motor pulley - Ball bearing motors - Fan shaft mounted in ball bearing pillow blocks - Static resistant belts - Corrosion resistant fasteners

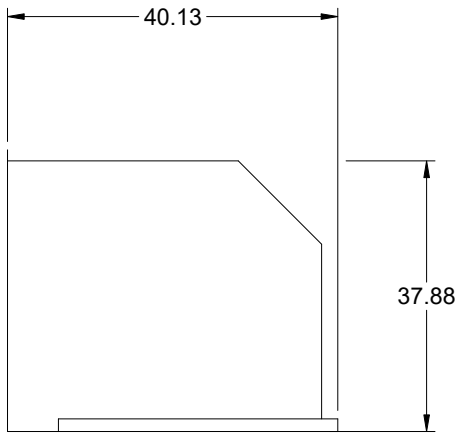
Selected Options & Accessories:

Motor with Thermal Overload
UL/cUL 705 Listed - "Power Ventilators"
Airflow Direction: Exhaust
Short Wall Hsg, Flush Exterior, w/ OSHA Grd.
Motor Access: From Int. of Bldg.
Switch, NEMA-1, Toggle, Shipped with Unit
Junction Box Mounted & Wired
Weatherhood, Galvanized 90 deg. with Bird Screen
Bearings with Grease Fittings
Unit Warranty: 1 Yr (Standard)
Damper Mounted, WD-320-PB-32X32, Gravity Operated, Not Coated

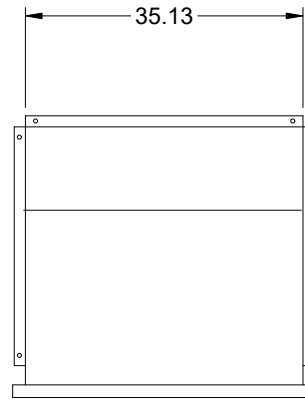
90 Degree Weatherhood

Standard Construction Features:

Galvanized Steel or aluminum construction. 0.5 welded wire birdscreen. Prepunched mounting holes. Field assembled.



SIDE VIEW

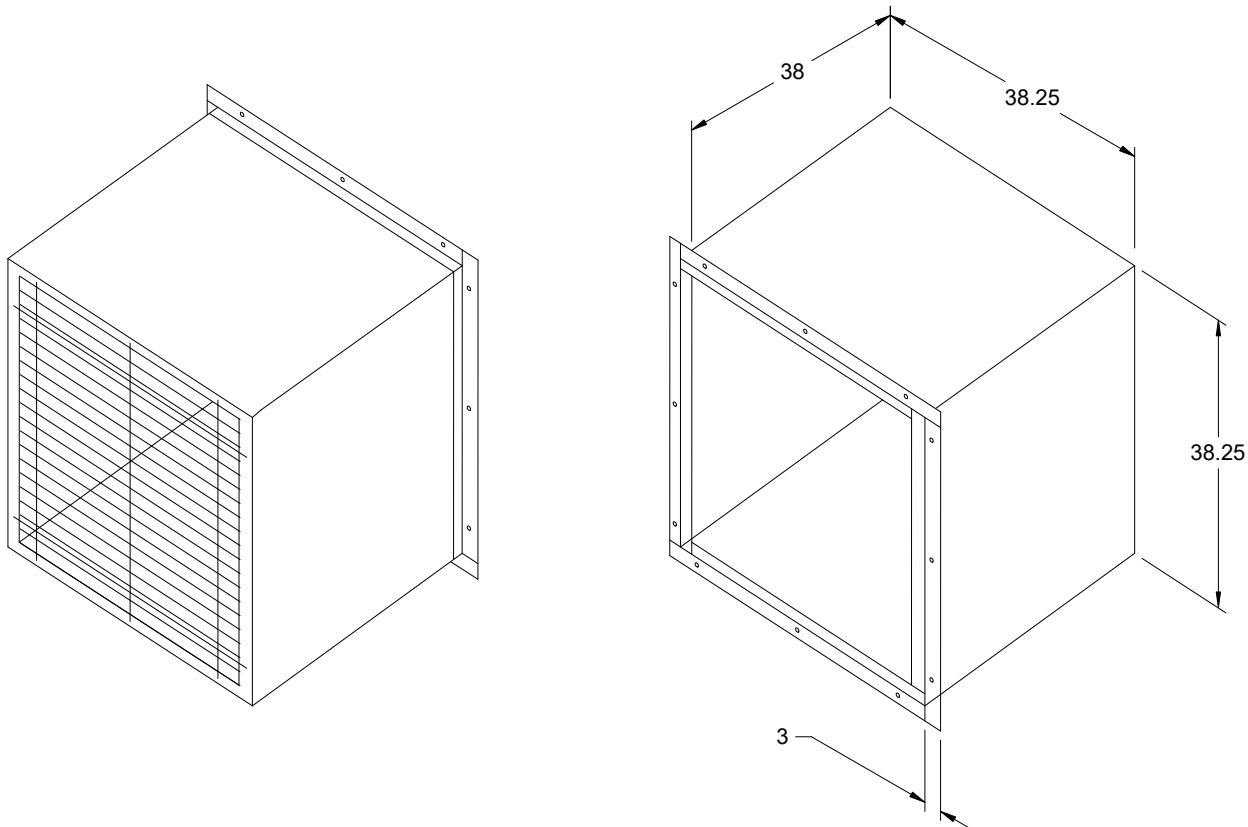


ELEVATION VIEW

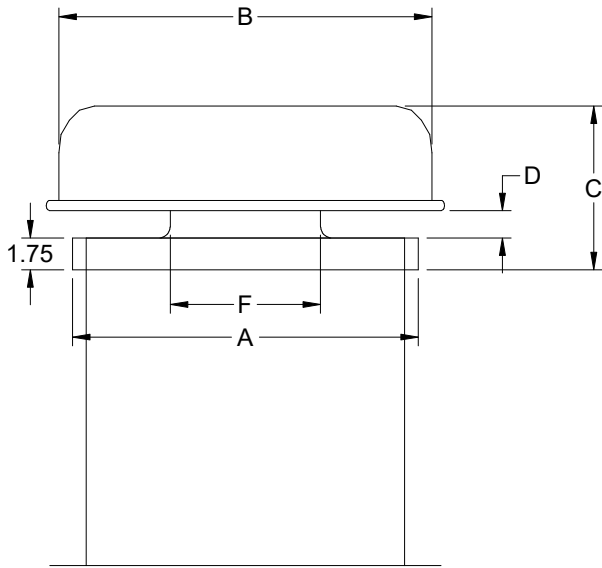
Short Wall Housing

Standard Construction Features:

- Galvanized steel construction - Heavy gauge mounting flanges - Pre-punched mounting holes - Inside flanges allow damper to be mounted - Overlapping weatherhood flange keeps rain out - OSHA Protective guard of welded steel wire completely protects the drive side of the wall housing.



Notes: All dimensions shown are in units of in.



Model: GRSR

Standard Construction Features:

- Aluminum housing.
- Aluminum curb cap with prepunched mounting holes.
- Recommended roof opening dimension is at least 2.5 in. larger than the damper size.

Dimensions

ID#	Tag	Qty	Model	Model Size (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Curb Cap Width (in.)	Curb Cap Length (in.)	Weight (lb)
5-1		3	GRSR-8	8	19	20.5	9	1.5	N/A	8.25	19	19	7

Construction

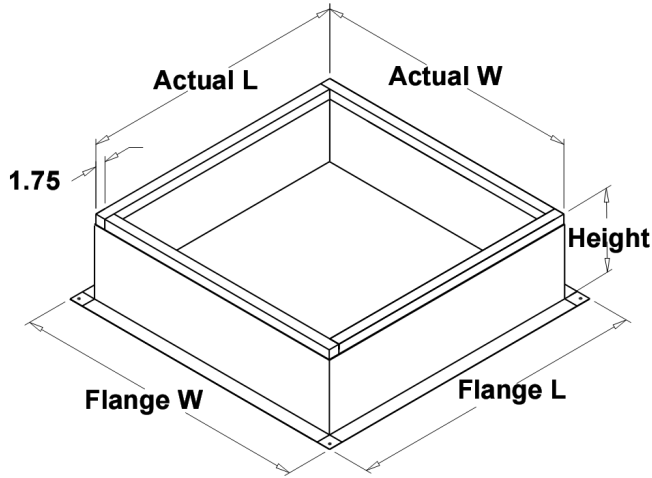
ID#	Flashing Flange	Installation Type	Insect Screen	Birdscreen Material	Unit Material
5-1	No	Non-Ducted	No	Galvanized	Aluminum

Accessories

ID#	Hinged Curb Cap	Curb Seal	Hood Insulation (in.)	Tie Down Points
5-1	No	No	None	No

Roof Curbs

ID#	Model	Height (in.)	Width (in.)	Length (in.)
5-1	GPI	18	19	19



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

ID#	Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Made
5-1		3	GPI-19-G18	Nominal	1.5	27	Yes	No Preference

Dimensions

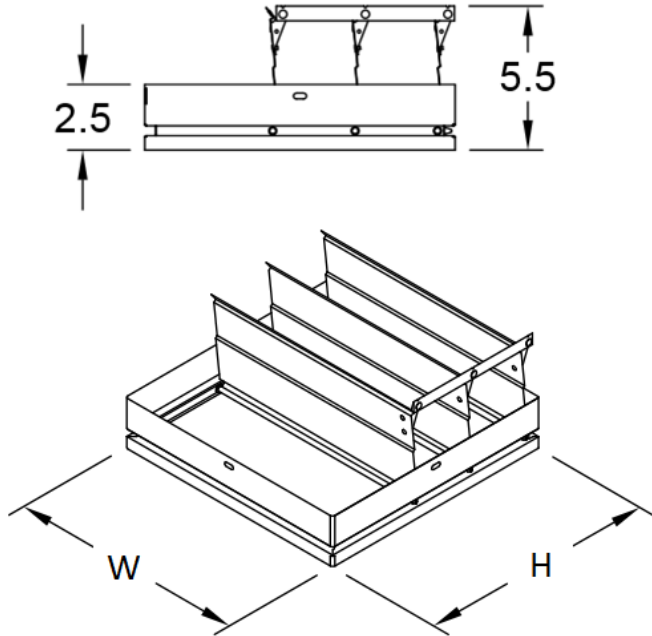
ID#	Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Flange Width (in.)	Flange Length (in.)
5-1	18	19	19	17.5	17.5	21.5	21.5

Accessories

ID#	Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
5-1	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



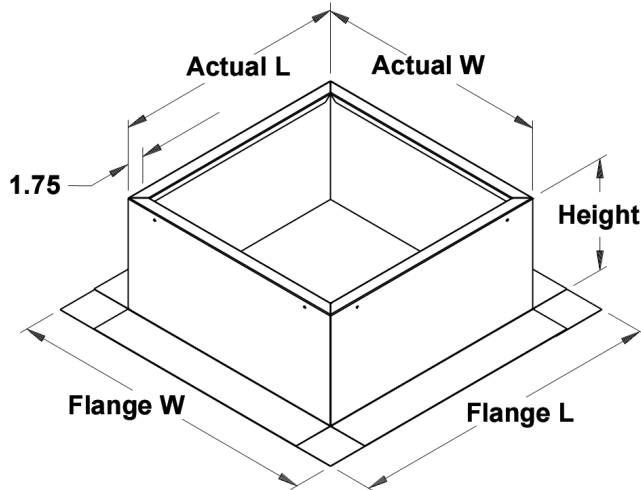
Greenheck Fan Corporation certifies that the models BD-100 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings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

Damper Configuration:

ID #:	Tag:	Quantity:	W (in.):	H (in.):	Act Qty:	Actuator Model:
3	EF-4	1	12	12	0	
5	EF-5	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: GPF



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. or 5 in. mounting flange - 1 in. thick 3 lb density insulation
- Height - Available from 8 in. to 42 in. as specified in 0.5 in. increments.

Notes:

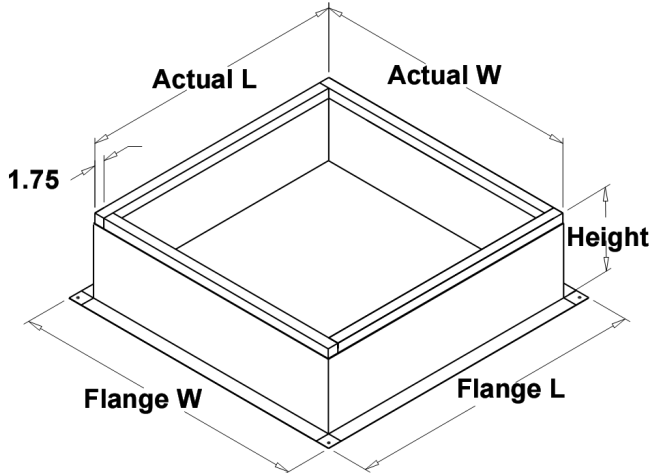
- The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in..
- The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size.
- The Roof Opening Dimension may or may not be the same as the Structural 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:
3	EF-4	1	19 x 19	17.75 x 17.75	27.75	27.75	18	N/A	x
5	EF-5	1	19 x 19	17.75 x 17.75	27.75	27.75	18	N/A	x

Notes: All dimensions shown are in units of in.

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.

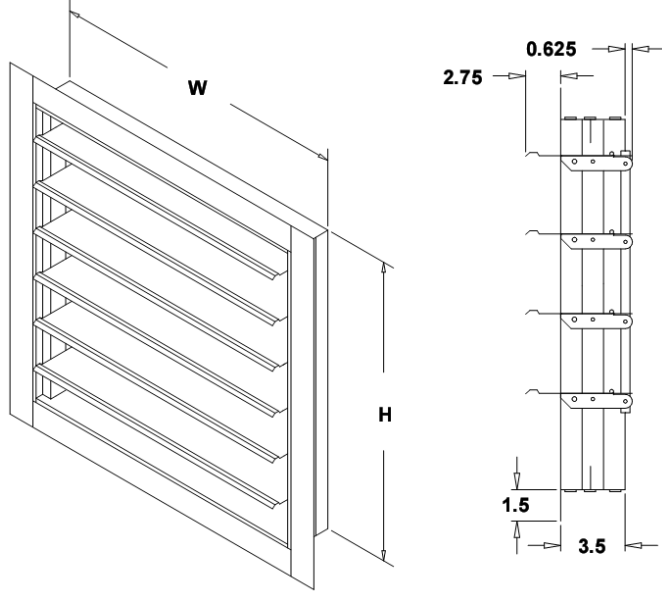
Roof Curb Configuration:

ID #:	Tag:	Qty:	Curb Cap W x L:	Actual W x L:	Flange W:	Flange L:	Height:	Step Hgt:	Damper Tray W x L:
11	Roof Caps	1	19 x 19	17.5 x 17.5	21.5	21.5	18	N/A	x

Notes: All dimensions shown are in units of in.

Vertical Mount Exhaust Damper

Model: WD-320



Standard Construction Features:

- Model WD-320 is a vertical mount exhaust damper and is constructed of 18 ga galvanized steel with pre-punched mounting holes and a flanged frame - Damper blades are 0.025 in. roll formed aluminum with vinyl seals on the closing edge - Steel axles are 0.188 in. diameter zinc plated mounted steel in nylon bushings - Synthetic axle bearings

Damper Configuration:

ID #:	Tag:	Quantity:	W (in.):	H (in.):	Act Qty:	Actuator Model:
7	EF-6	1	32	32	0	

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