

# BENCHMARK

34 Thomas Drive  
Westbrook, ME 04092  
Ph: (207)591-7600  
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## Transmittal

**To:** Bild Architecture  
PO Box 8235  
Portland, ME 04104  
Ph: (207)408-0168

**Transmittal #:** 39  
**Date:** 5/11/2017  
**Job:** 10-16-1843 Salvation  
Army

**Subject:** Submittal

**WE ARE SENDING YOU**    Attached    Under separate cover via  
 Shop drawings    Prints    Plans    Samples  
 Copy of letter    Change order    Specifications    Submittal

Copies	Date	No.	Description
1		230000-1 Rev 0	Air Supply, Distribution, Ventilation, Exhaust System
0			Fans- 11 pages ←
0			<del>Commercial Kitchen Hoods- 27 pages</del>
0			<del>Registers, Grilles, Diffusers- 12 pages</del>
0			<del>RTUs- 16 pages</del>
0			<del>Roof Curbs- 7 pages</del>

**THESE ARE TRANSMITTED as checked below:**

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> For approval           | <input type="checkbox"/> Approved as submitted    | <input type="checkbox"/> Resubmit ___ copies for approval     |
| <input type="checkbox"/> For your use           | <input type="checkbox"/> Approved as noted        | <input type="checkbox"/> Submit ___ copies for distribution   |
| <input type="checkbox"/> As requested           | <input type="checkbox"/> Returned for corrections | <input type="checkbox"/> Return ___ corrected prints          |
| <input type="checkbox"/> For review and comment | <input type="checkbox"/> Other                    | <input type="checkbox"/> PLEASE SIGN AND RETURN TO OUR OFFICE |
| <input type="checkbox"/> <b>FOR BIDS DUE</b>    |   |   |

**Remarks:**

**Copy To:**

**From:**

# BENCHMARK

34 Thomas Drive  
Westbrook, ME 04092  
Ph: (207)591-7600  
Fax: (207)591-7604

## Submittal Cover Sheet

**Job:** 10-16-1843  
Salvation Army  
88 Preble Street  
Portland, ME 04101

**Spec Section No:** 230000  
**Submittal No:** 1  
**Revision No:** 0  
**Sent Date:** 5/11/2017

**Submittal Title:** Air Supply, Distribution, Ventilation, Exhaust System

**Contractor:**  
BENCHMARK  
Michael Cleary

**Bild Architecture**  
PO Box 8235, Portland, ME 04104

Approved       Approved as Corrected  
 Rejected       Revise and Resubmit  
 Submit Specified Item

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work of all trades; and for performing all work in a safe and satisfactory manner.

Date 05/16/2017 By Audra C. Wrigley

**Architect (Primary):**  
Bild Architecture

**Contractor's Stamp**  
**x Reviewed-No Except**

Reviewed for general conformance with the design concept and contract documents. Markings or comments shall not be construed as relieving the Subcontractor from compliance with the Project plans and specifications, nor departure therefrom. The Subcontractor remains responsible for details and accuracy, for conforming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performing the work in a safe manner.

**BENCHMARK**

**Architect's Stamp**

**Engineer**

- 1. Ensure EF-5 apartment range hood width matches range width and cabinetry per architectural drawings.

- 2. Resubmit R-1. Needs to match performance of scheduled return grille less than or equal to NC20 at 1875 CFM.
- 3. Confirm maximum outside air flows for RTU-1 and RTU-2 are greater than required ventilation rates on M001. Cutsheets show 800 CFM and 400 CFM, respectively (20%), which is lower than required.
- 4. Ensure RTU-1 and RTU-2 OA intakes are deconflicted from all roof-top exhausts by 10' per Code when selecting orientation of RTUs.

**Engineer's Stamp**

**REVIEWED**  
By *Sonia Barrantes, PE* at 11:39 am, May 16, 2017

30" Hood



# ***SUBMITTAL***

*Job Title:* **SALVATION ARMY**

*Elevation: (ft)* 62

*Date:* 5/04/2017

*Submitted By:* William Czaja

**BUCKLEY ASSOCIATES INC**

**510 MAIN STREET**

**GORHAM, ME 04038**

**US**

**Phone: (207)773-0078**

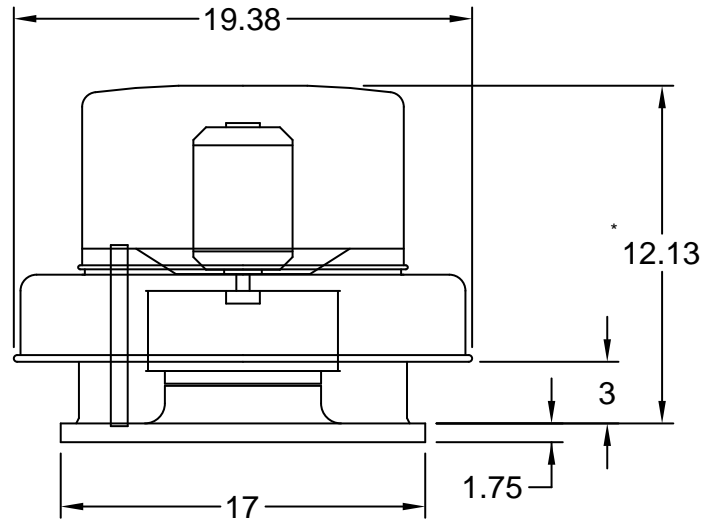
**Fax: (207)773-0074**

**Email Address: wczaja@buckleyonline.com**



P.O. Box 410 Schofield, WI 54476 (715) 359-6171 FAX (715) 355-2399 [www.greenheck.com](http://www.greenheck.com)

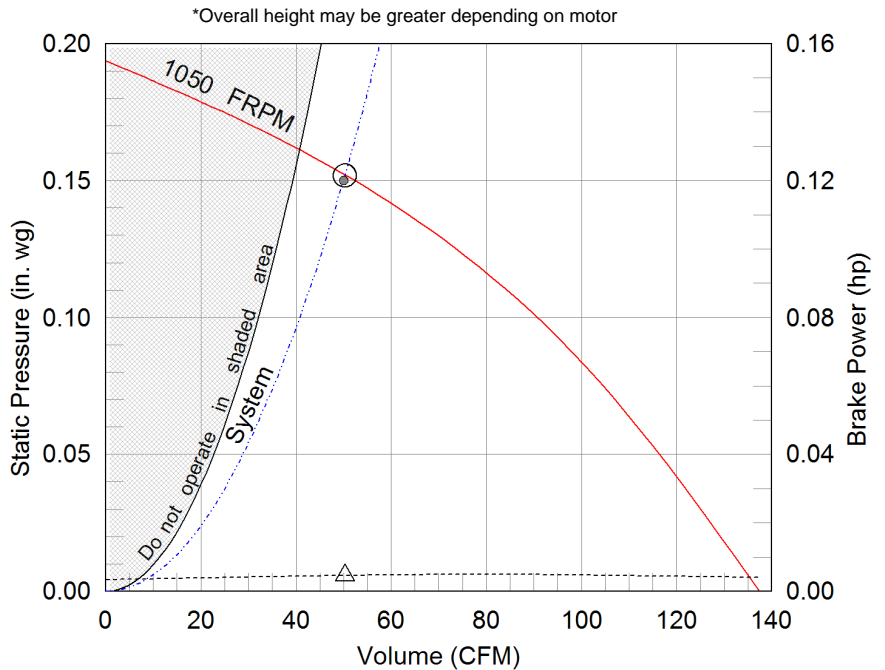
**Model: G-060-E**  
Direct Drive Centrifugal Roof Exhaust Fan



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	16
Weight w/ Acc's (lb)	32
Optional Damper (in.)	8 x 8
Roof Opening (in.)	10.5 x 10.5

Performance	
Requested Volume (CFM)	50
Actual Volume (CFM)	50
External SP (in. wg)	0.15
Total SP (in. wg)	0.152
Fan RPM	1050
Operating Power (hp)	0.00
Elevation (ft)	62
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	2,233
Static Eff. (%)	26

Motor	
Motor Mounted	Yes
Size (hp)	1/200 (or greater)
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1050
Windings	1



- △ Operating Bhp point
  - Operating point at Total SP
  - Operating point at External SP
  - Fan curve
  - - - System curve
  - ..... Brake horsepower curve
- |                             |              |
|-----------------------------|--------------|
| External SP                 | 0.15 in. wg  |
| Direct Drive RPM Adjustment | 0.002 in. wg |
| Total SP                    | 0.152 in. wg |

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	54	55	51	41	42	40	28	23	48	36	1.7

**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 AMCA 301 at 5 ft



## Model: G-060-E

### Direct Drive Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined wheel - Aluminum curb cap with prepunched mounting holes - Birdscreen - Ball bearing motors (sizes 100-180), sleeve bearing motors (sizes 60-95) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

UL/cUL 705 Listed - "Power Ventilators"

Switch, NEMA-1, Toggle, Shipped with Unit

Junction Box Mounted & Wired

Roof Curb-Galv., GPI-17-G12, Under Sized 1 in. Total

Damper Shipped Loose, BD-90-PB-8X8, Gravity Operated, Not Coated

Unit Warranty: 1 Yr (Standard)

# Disconnect Switch

## Enclosure Rating: NEMA-1

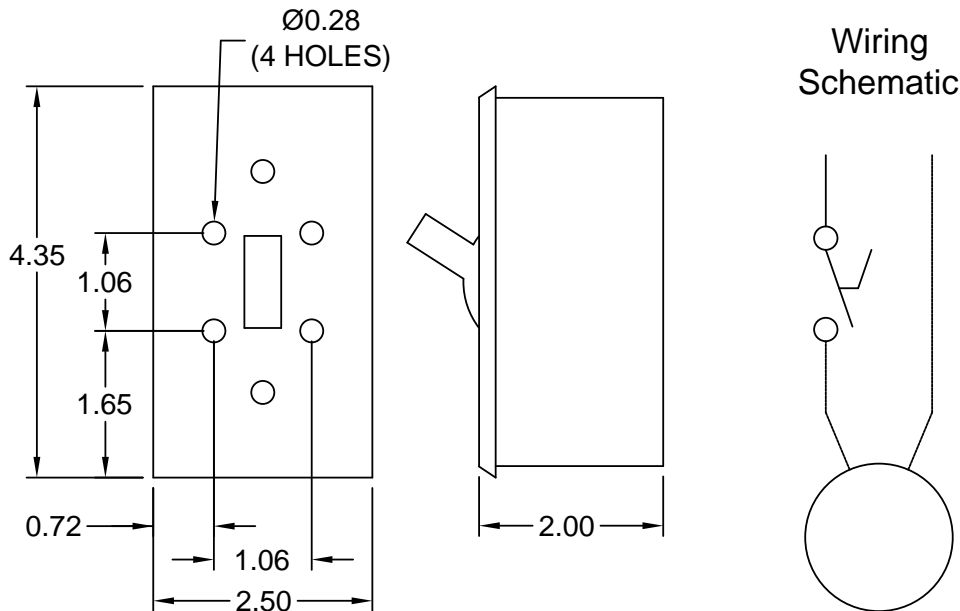
### Standard Construction Features:

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

### Disconnect Switch Configuration

Type:	Toggle	Motor Size:	1/200 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Mounted and Wired	RPM:	1050	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped With Unit						

### Electrical Drawing Details



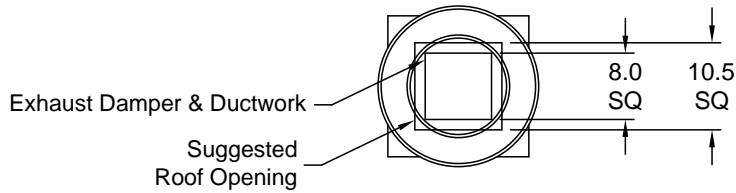
Notes: All dimensions shown are in units of in.

Generated by: wczaja@buckleyonline.com

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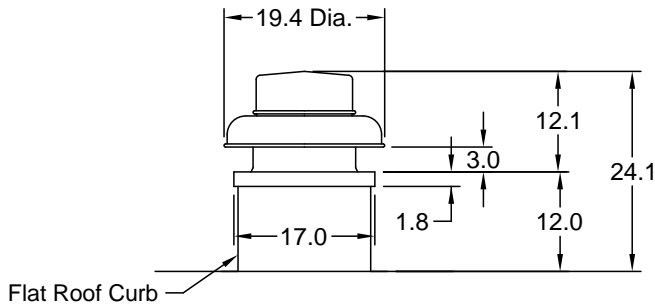
# Assembly Drawing

Type: Direct Drive Centrifugal Roof Exhaust Fan



TOP VIEW

NOTE: Duct dimensions are largest possible duct to fit through curb. Consult system design engineer for recommended duct size.



FRONT VIEW

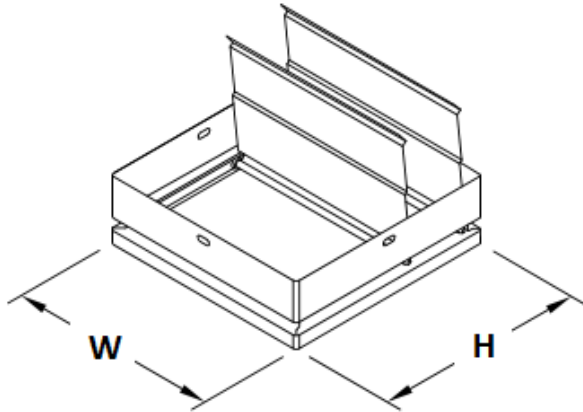
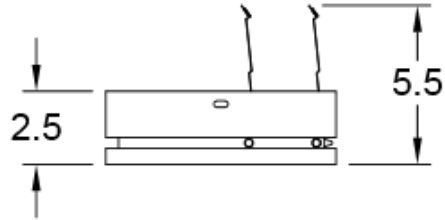
NOTE: Overall height may be greater depending on motor

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



## Horizontal Mount Exhaust Damper

Model: BD-90



### Standard Construction Features:

- Model BD-90 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 - Axle/bearing is constructed of fiberglass reinforced nylon

NOTE: This damper is only available in an 8 in. x 8 in. size.

### Damper Configuration:

ID #:	Tag:	Quantity:	W (in.):	H (in.):	Act Qty:	Actuator Model:
5	EF-4	1	8	8	0	

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

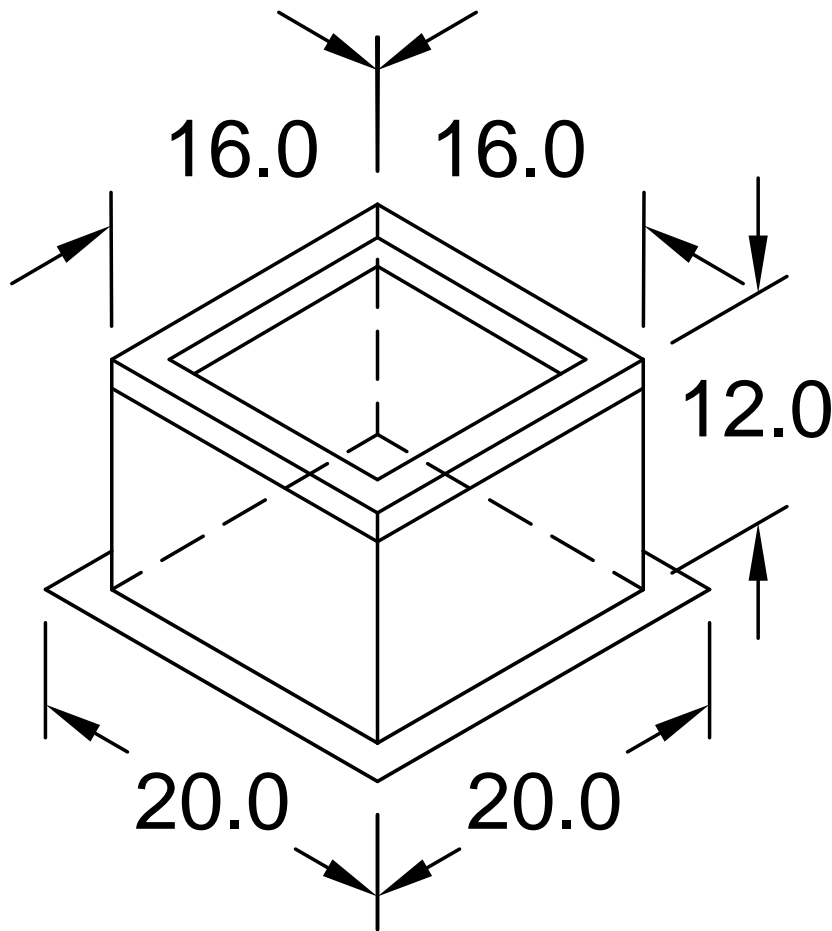
# Roof Curb

Model: GPI

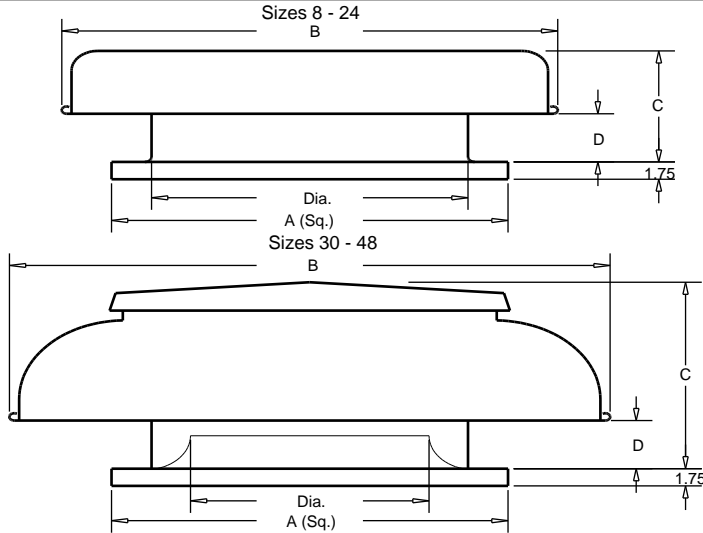
Material: Galvanized

## 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 NOT be 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.



Notes: All dimensions shown are in units of in.



NOTE: All dimensions shown are in units of inches

# GRSI

## Spun Aluminum Gravity Intake

### 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.

### SELECTED OPTIONS & ACCESSORIES

- Aluminum Housing
- Galvanized Birdscreen - 0.5 in. Mesh Type
- Curb GPI-G24

### DIMENSIONS

ID #	Tag	Qty	Model Size	A sq. (in.)	B (in.)	C (in.)	D (in.)	Dia. (in.)	Opt. Damper Width (in.)	Opt. Damper Length (in.)	Unit Weight (lb)
1-1		1	24	34	38.25	11	4	24.5	24	24	29

### PERFORMANCE

ID #	Tag	Qty	Model Size	Volume (CFM)	SP (in. wg)	Throat~V elocity~ (ft/min)	Throat Area (ft2)
1-1		1	24	0	0	0	0

## Roof Curb

Line Number: 2-1

Model: GPI

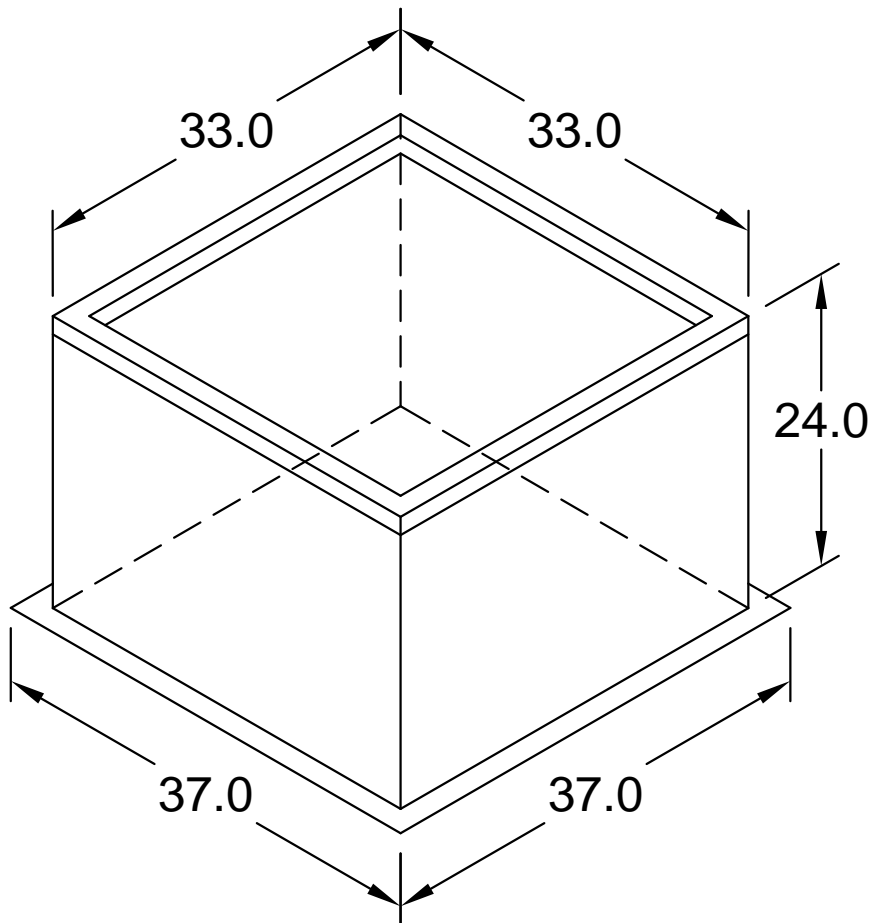
Material: Galvanized

### 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.

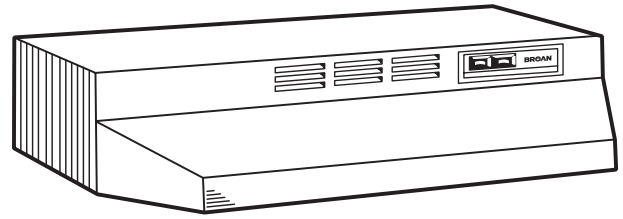
### Notes:

- 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 NOT be 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.



Notes: All dimensions shown are in units of in.

# 41000 SERIES TWO-SPEED NON-DUCTED RANGE HOOD



Broan's most economical non-ducted hood with filtration of airborne cooking contaminants.

**FEATURES**

- Rocker-type fan and light switches
- Polymeric blade and light lens (accepts up to 75W bulb)
- Non-ducted filter – effective non-ducted filtration system removes smoke and odors
- Mitered sides and hemmed bottom for safety and good looks
- Contemporary styling in White, Almond, Black and Stainless Steel
- Available in 24", 30", 36", and 42" widths
- Special Order Size: 21"

**SPECIFICATIONS**

VOLTS	AMPS	RPM
120	2.0	2850

**TYPICAL SPECIFICATION**

Range hood shall be Broan Model 41000.

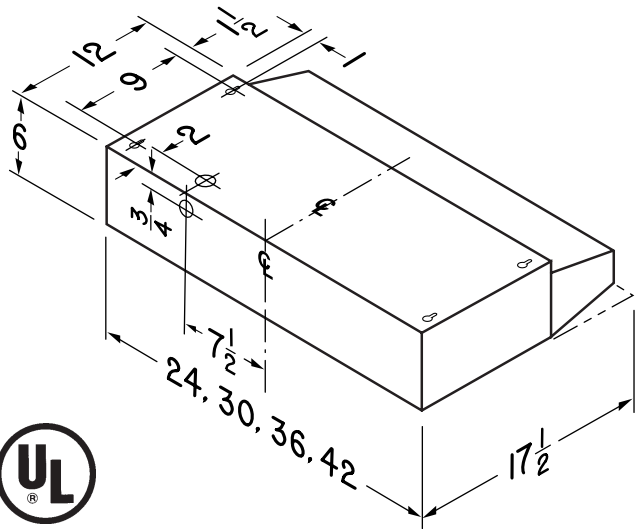
Unit shall be non-ducted and have a non-ducted filter.

Motor to be permanently lubricated. RPM not to exceed 2850.

Unit shall have a two-speed fan switch and separate light switch.

Sides shall be mitered and bottom edge hemmed – with no sharp edges.

Unit shall be U.L. listed.



Broan-NuTone LLC, 926 West State Street, Hartford, Wisconsin 53027 (1-800-637-1453)

REFERENCE	QTY.	REMARKS	Project
			Location
			Architect
			Engineer
			Contractor
			Submitted by <span style="float: right;">Date</span>