

Submittal Form

ARCHITECT

ENGINEER

AHSC

(Project)

Submittal No. 001

Description: HVAC Fans

Date: 07/17/17 **Return By:** 07/31/17

Division: 23

Section: 23 34 90

Andersen

Subcontract/Supplier:

The review by O'Neill Walsh Community Builders ("OWCB") of the above Submittal shall not relieve Subcontractor/Supplier from any of its obligations under the agreement with OWCB nor give rise to any claim in favor of the Subcontractor/Supplier or third parties against OWCB or Owner.

By: Logan Bright

O'Neill Walsh Community Builders

Notes:

Revise and resubmit.

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contact documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for: Dimensions, which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

MFIA, Inc. Consulting Engineers

By: Takako Baker, Date: 7/24/17

Notes:

Notes:



**"Your Green Heating & Cooling Professionals
Dedicated to Serving Your and Your Community"**

HVAC Submittals

**Asian Health & Service Center
9005 SE Foster Rd.
Portland, OR 97266**

**General Contractor
O'Neill / Walsh Community Builders
2905 SW First Avenue
Portland, OR 97201**

**Submitted By
Andersen Mechanical
16285 SW 85th Ave, Suite 410
Tigard, OR 97224**



23_34_00

HVAC Fans



Phone: 503-234-5071
2220 SE Ninth Ave., Portland, OR 97214
Fax: 503-233-0451
800-848-5199

SUBMITTAL

PROJECT: ASIAN HEALTH & SERVICE CENTER
LOCATION: PORTLAND, OR
ARCHITECT: _____
ENGINEER: _____
CONTRACTOR: ANDERSEN HEATING
DATE SUBMITTED: June 7, 2017
PROJECT MANAGER: JD ROGERS EMAIL: jrogers@johnsonair.com
ACCOUNT MANAGER: JD ROGERS EMAIL: jrogers@johnsonair.com
PLAN DATE: July 22, 2016
ADDENDUMS: NA

WE ARE PLEASED TO SUBMIT THE FOLLOWING LIST OF EQUIPMENT FOR APPROVAL. BASED UPON INFORMATION RECEIVED WE BELIEVE THIS MATERIAL CONFORMS TO THE SPECIFICATIONS. IT SHALL REMAIN THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SIZES AND QUANTITIES PRIOR TO ORDER RELEASE. MATERIAL WILL BE RELEASED TO PRODUCTION UPON RETURN OF APPROVED SUBMITTALS TO JOHNSON AIR PRODUCTS AT 2220 S.E. 9TH AVE., PORTLAND, OREGON 97214.

MATERIAL SUBMITTED: FAN

SPECIFICATIONS: _____

MANUFACTURER: GREENHECK

(Please see attached literature)

Fans				Actual Performance							Motor Specifications							
Mark	Qty	Model	Wheel Dia.	Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	Fan RPM	Power (hp)	dBA	Sones	Size (hp)	Volt	Hz	Ph	Enc	RPM	EC Motor	Motor Starter
SF-1	1	RCS3-48-623-C50	48	21,605	0.25	0.473	860	4.67	88	54	5	208	60	3	TEFC	860	-	No

Selected Options & Accessories

Hood

Energy Efficient Motor - meets NEMA Table 12-11

Motor VFD Rated with Shaft Grounding Protection

Motor with Shaft Grounding

UL/cUL 705 Listed - "Power Ventilators"

Switch, NEMA-3R, Toggle, Shipped with Unit

Seismic Rated to Design Category F per IBC-2012 & ASCE 7-05 Standards

OSHDP Seismic Certified, #OSP-0113-10

Roof Curb-Galv., GPF-58-G12, Under Sized 1.25 in. Total

Cast Aluminum Propeller

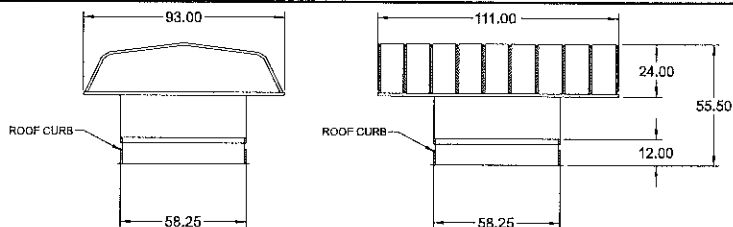
Galvanized Construction

Damper Shipped Loose, VCD-23-PB-48X48, Not Coated

Damper Actuator (MS8120F1002), 24 VAC Actuated

Model: **RCS3-48-623-C50**

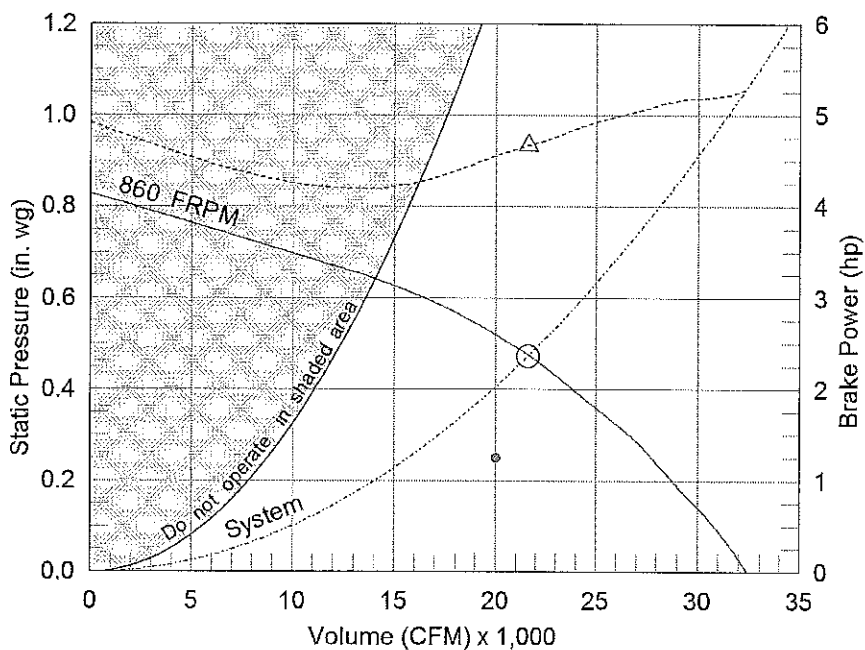
Propeller Hooded Roof Direct Drive Supply Fan



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	879
Weight w/ Acc's (lb)	1,085
Max T Motor Frame Size	256
Optional Damper (in.)	48 x 48
Roof Opening (in.)	50.5 x 50.5

Performance	
Requested Volume (CFM)	20,000
Actual Volume (CFM)	21,605
External SP (in. wg)	0.25
Total SP (in. wg)	0.473
Fan RPM	860
Operating Power (hp)	4.67
Elevation (ft)	108
Airstream Temp. (F)	70
Air Density (lb/ft ³)	0.075
Tip Speed (ft/min)	10,807
Static Eff. (%)	34

Motor	
Motor Mounted	Yes
Size (hp)	5
Voltage/Cycle/Phase	208/60/3
Enclosure	TEFC
Motor RPM	860
Windings	1



△ Operating Bhp point	External SP	0.25 in. wg
○ Operating point at Total SP	Direct Drive RPM Adjustment	0.068 in. wg
• Operating point at External SP	Damper	0.155 in. wg
— Fan curve	Total SP	0.473 in. wg
- - - System curve		
..... Brake horsepower curve		

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	94	96	98	95	96	93	84	80	100	88	54

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: RCS3-48-623-C50

Propeller Hooded Roof Direct Drive Supply Fan

Standard Construction Features:

- Base and hoods of galvanized steel - Drive frames and fan panels of fabricated steel - Wire mesh birdscreens - Ball bearing motors - Cast aluminum airfoil blade propeller - Corrosion resistant fasteners - Due to shipping size limitations, hoods for fans sizes 48 and larger will be shipped knocked down. Hood assembly requires no special tools or training. Complete illustrated assembly and installation instructions are packed with each fan.

Selected Options & Accessories:

Hood

Energy Efficient Motor - meets NEMA Table 12-11
Motor VFD Rated with Shaft Grounding Protection
Motor with Shaft Grounding
UL/cUL 705 Listed - "Power Ventilators"
Switch, NEMA-3R, Toggle, Shipped with Unit
Junction Box Mounted & Wired
Seismic Rated to Design Category F per IBC-2012 & ASCE 7-05 Standards
OSHPD Seismic Certified, #OSP-0113-10
Roof Curb-Galv., GPF-58-G12, Under Sized 1.25 in. Total
Cast Aluminum Propeller
Galvanized Construction
Damper Shipped Loose, VCD-23-PB-48X48, Not Coated
Damper Actuator (MS8120F1002), 24 VAC Actuated
Unit Warranty: 1 Yr (Standard)

Disconnect Switch

Enclosure Rating: NEMA-3R

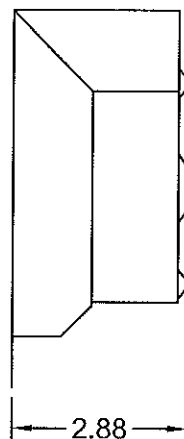
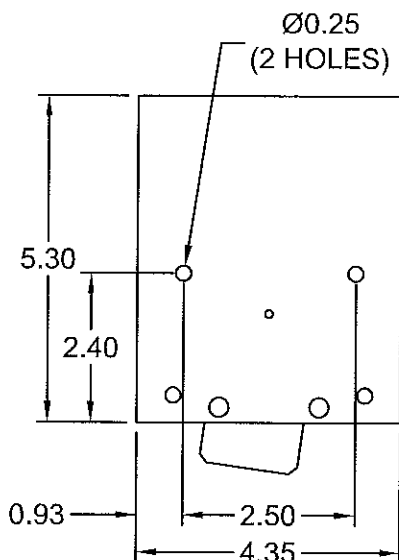
Standard Construction Features:

Enclosure constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment: to provide a degree of protection against falling dirt, rain, sleet, snow, and windblown dust. The enclosed equipment will be undamaged by the external formation of ice on the enclosure. This enclosure meets the rod entry, rain, external icing, outdoor corrosion protection and gasket design tests. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

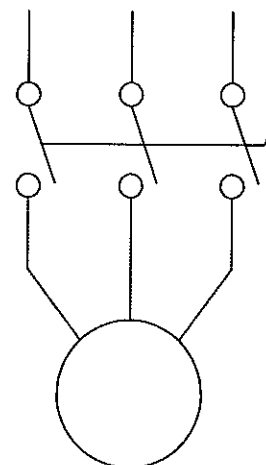
Disconnect Switch Configuration

Type:	Toggle	Motor Size:	5 hp	Voltage:	208	UL Listed:	Yes
Manufacturer:	Square D	Cycle:	60	Amperage:	30	CSA Approved:	Yes
Overload Protection:	None	Phase:	3	Switch Pole(s):	3	Rating:	10 h
Junction Box Mtg.:	Mounted and Wired	RPM:	860	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped With Unit						

Electrical Drawing Details



Wiring Schematic

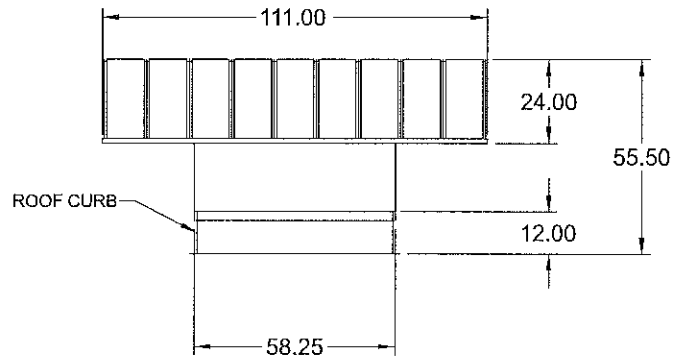
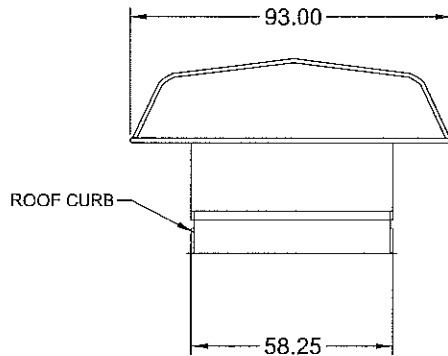


Notes: All dimensions shown are in units of in.

Generated by: jdrogers@johnsonair.com

Assembly Drawing

Type: Propeller Hooded Roof Direct Drive Supply Fan



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

Control Damper

Model: VCD-23

Standard Construction Features:

- Model VCD-23 is a well built low leakage control damper for automatic control or manual balancing applications - Galvanized 16 ga channel frame - Galvanized blades with reinforcements - Side mounted steel linkage is concealed in the frame to prevent additional pressure drop - Axles are steel and 0.5 in. dia.- Synthetic axle bearings - Width and height furnished approximately 0.25 in. undersized - Field wiring is required to individual components

Damper Configuration:

Actuator Type: 24 VAC

End Switch: No

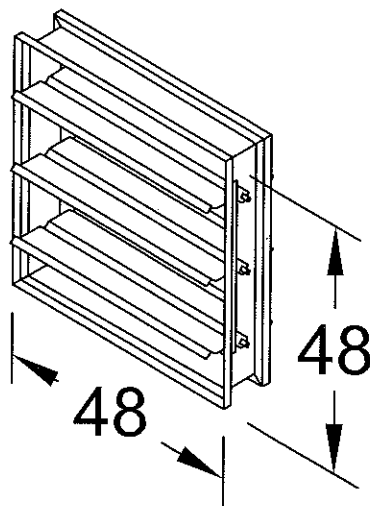
Actuator Configuration:

Manufacturer: Honeywell Jackshaft Quantity: 0

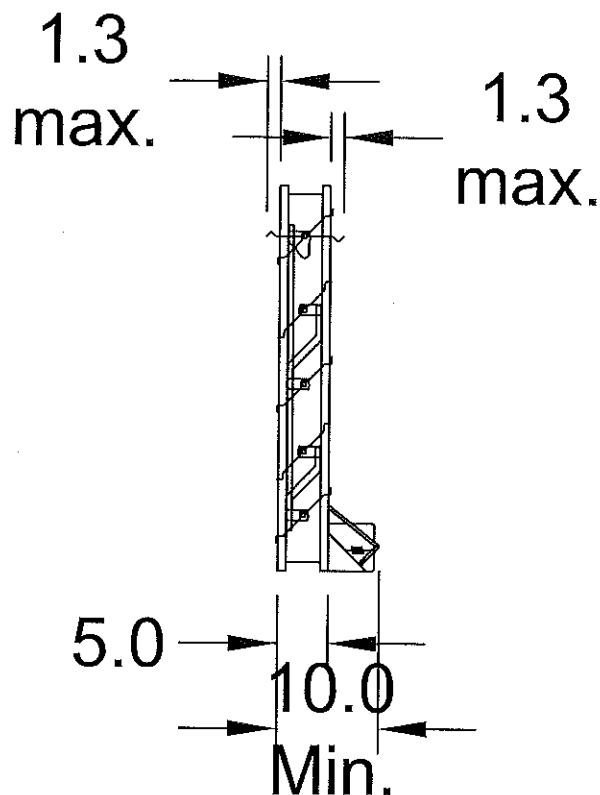
Model: MS8120F1002

Mounting: Internal

Quantity: 1



DAMPER



TYP. SECTION VIEW

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

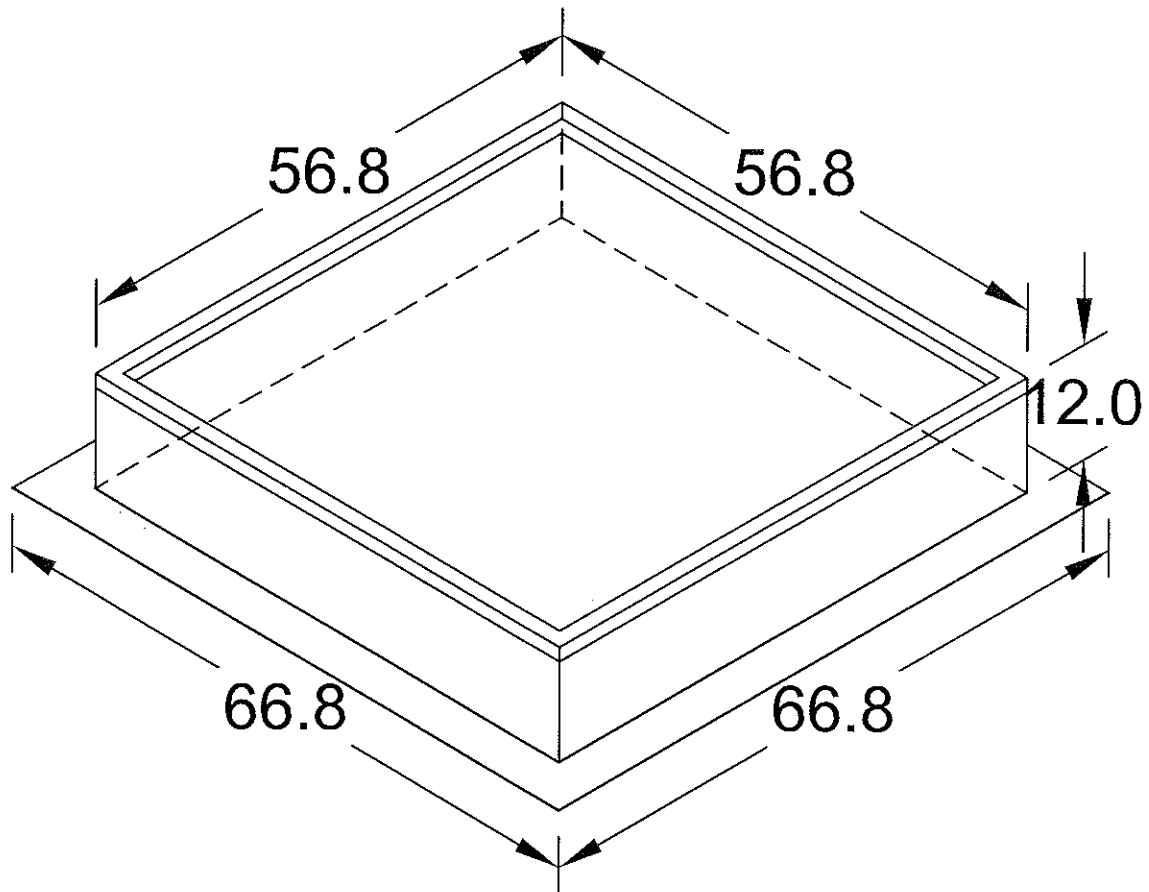
Roof Curb

Model: GPF

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 - 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 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.

Warranty

1 Yr (Standard)

WARRANTY AND LIABILITY: SELLER warrants to Buyer that products manufactured are free from defects in material and workmanship for a period of 1 Yr (Standard) from the date of shipment. SELLER's obligations and liabilities under this warranty are limited to furnishing FOB factory or warehouse at SELLER's designated shipping point, freight allowed to Buyer's city, (or point of export for shipments outside the conterminous United States) replacement equipment (or at the option of SELLER parts therefore) for all Seller's products not conforming to this warranty and which have been returned to the manufacturer. No liability whatever shall attach to SELLER until said products have been paid for and such liability shall be strictly limited to the purchase price of the equipment shown to be defective. Motors are warranted by the motor manufacturer for a period of one year. Should motors furnished by SELLER prove defective during this period, they should be returned to the nearest authorized motor service station. SELLER will not be responsible for any removal or installation costs. Electrical components, excluding motors, are warranted only to the extent warranted by the original manufacturer. To the extent that SELLER is entitled to pass through a warranty of the original equipment manufacturer of the electrical goods sold, SELLER will pass through such warranties to Buyer. The legal remedies described in this Warranty are the sole exclusive remedy of Buyer. SELLER MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED, REGARDING ITS PRODUCTS, OR ITS SELECTION AND APPLICATION, INCLUDING, BUT NOT LIMITED TO, COMPLIANCE WITH BUILDING CODES, SAFETY CODES, LAWS, MERCHANTABILITY OR FITNESS OR A PARTICULAR PURPOSE. This warranty is extended solely to the Buyer. It is nontransferable and non-assignable, and the Buyer shall not permit or authorize its employees, agents, representatives or customers to claim, represent or imply that this limited warranty extends or is available to anyone other than the Buyer. ANY MISUSE, NEGLIGENCE, FAILURE TO FOLLOW INSTRUCTIONS OR MANUALS OF INSTALLATION OF MAINTENANCE REPAIR, SERVICE, RELOCATION OR ALTERATION TO OR OF, OR OTHER TAMPERING WITH, THE PRODUCTS PERFORMED BY ANY PERSON OR ENTITY OTHER THAN SELLER WITHOUT SELLER'S PRIOR WRITTEN APPROVAL OR ANY USE OF REPLACEMENT PARTS NOT SUPPLIED BY SELLER, SHALL IMMEDIATELY VOID AND CANCEL ALL WARRANTIES WITH RESPECT TO THE AFFECTED PRODUCTS. THE WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESSED OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. SELLER PROVIDES NO INDEPENDENT WARRANTY FOR THIRD PARTY PRODUCTS OR COMPONENTS SOLD TOGETHER OR INCORPORATED WITH SELLER'S PRODUCT(S). THE SELLER HAS THE RIGHT TO SETTLE ANY AND ALL DISPUTES REGARDING THE WARRANTY.