



**HIPP  
DESIGN +  
CONSULTING**

# SHOP DRAWING / SUBMITTAL ACTION TICKET

CLIENT NAME	Eli Lilly
CONSTRUCTION MANAGER	BE&K
PROJECT NAME	Project Concord DAP
PROJECT NUMBER	G22131

<b>SUBMITTAL NUMBER:</b> #079		<b>SUBMITTAL TITLE:</b> Greenheck Exhaust Fans Bldg 6 Rev 2											
<b>CONTRACTOR / VENDOR:</b> Kirlin-Way Mechanical		<b>DATE RECEIVED:</b> 02MAY2023											
<b>RECEIVED BY:</b> NR		<b>DATE DUE:</b> 16MAY2023											
<b>DISPOSITION:</b> <input type="checkbox"/> NO EXCEPTION TAKEN <input checked="" type="checkbox"/> APPROVED AS NOTED <input type="checkbox"/> REVISE AND RESUBMIT <input type="checkbox"/> REJECTED, RESUBMIT <input type="checkbox"/> NOT REVIEWED		<b>DISTRIBUTION:</b> <table border="0"> <tr> <td><input type="checkbox"/> CIVIL _____</td> <td><input checked="" type="checkbox"/> ELECTRICAL <u>J. Millikin</u></td> </tr> <tr> <td><input type="checkbox"/> ARCHITECTURAL _____</td> <td><input checked="" type="checkbox"/> INST &amp; CONT. <u>J. Caplan</u></td> </tr> <tr> <td><input type="checkbox"/> STRUCTURAL _____</td> <td><input type="checkbox"/> PROJ. LEADER _____</td> </tr> <tr> <td><input checked="" type="checkbox"/> MECHANICAL <u>A. Anderson</u></td> <td><input type="checkbox"/> OTHER _____</td> </tr> <tr> <td><input type="checkbox"/> PROCESS _____</td> <td></td> </tr> </table>		<input type="checkbox"/> CIVIL _____	<input checked="" type="checkbox"/> ELECTRICAL <u>J. Millikin</u>	<input type="checkbox"/> ARCHITECTURAL _____	<input checked="" type="checkbox"/> INST & CONT. <u>J. Caplan</u>	<input type="checkbox"/> STRUCTURAL _____	<input type="checkbox"/> PROJ. LEADER _____	<input checked="" type="checkbox"/> MECHANICAL <u>A. Anderson</u>	<input type="checkbox"/> OTHER _____	<input type="checkbox"/> PROCESS _____	
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<input checked="" type="checkbox"/> MECHANICAL <u>A. Anderson</u>	<input type="checkbox"/> OTHER _____												
<input type="checkbox"/> PROCESS _____													

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract 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.

**REMARKS:**

Electrical Comments: No comments.

I&C Comments: EF-4922AEX, Confirm the input control signal is: 0-1VDC motor/fan off, 1-10VDC motor/fan 0-100% speed.

See below on a similar application:

On Wed, Feb 22, 2023 at 8:21 AM Vijay Periannan <Vijay.Periannan@hoffman-hoffman.com> wrote:  
Jim,  
Thanks for the responses. Just wanted to clarify on my previous email.

- There will be a 0-10VDC signal for fan control
- 0 VDC turns the fan off.
- 1.0VDC is the threshold for fan on at minimum motor rpm.
- 10VDC runs motor at max rpm
- Since the unit is controlled by the BMS, our suggestion was to have the controls contractor furnish the current sensor for fault signal.

HVAC Comments:  
No exception taken

**EF-4922AEX - PAGE 5**

Adam J. Anderson, P.E.  
\_\_\_\_\_  
PRIMARY DISCIPLINE LEAD

Mechanical  
\_\_\_\_\_  
DISCIPLINE

09MAY2023  
\_\_\_\_\_  
DATE



**BE&K Building Group**  
 100 Capitola Drive  
 Suite 301  
 Durham, North Carolina 27713  
 P: (919) 781-0054

**Project: 306232 Lilly — DAP, Warehouse Interface, + Central  
 Corridor Fit Out**  
 1420 Concord Parkway South  
 Concord, North Carolina 28027

## Submittal #233416-59.0 - Exhaust Fan - 4922AEX 233416 - Centrifugal HVAC Fans

<b>Revision</b>	0	<b>Submittal Manager</b>	Dylan Driscoll (BE&K Building Group - Raleigh)
<b>Status</b>	Open	<b>Date Created</b>	May 2, 2023
<b>Issue Date</b>	May 2, 2023	<b>Spec Section</b>	233416 - Centrifugal HVAC Fans
<b>Responsible Contractor</b>	Kirlin-Way Mechanical, LLC	<b>Received From</b>	Jason Brindle (Kirlin-Way Mechanical, LLC)
<b>Received Date</b>	Apr 28, 2023	<b>Submit By</b>	
<b>Final Due Date</b>	May 19, 2023	<b>Lead Time</b>	
		<b>Cost Code</b>	
<b>Location</b>		<b>Type</b>	Product Data
<b>Approvers</b>	Natasha R (Hipp Engineering & Consulting Inc), Alex Stone (Hipp Engineering & Consulting Inc), Dylan Driscoll (BE&K Building Group - Raleigh)		
<b>Ball in Court</b>	Natasha R (Hipp Engineering & Consulting Inc), Alex Stone (Hipp Engineering & Consulting Inc)		
<b>Distribution</b>	Alex Stone (Hipp Engineering & Consulting Inc), Natasha R (Hipp Engineering & Consulting Inc), Jonathon Ross (Kirlin-Way Mechanical, LLC), Jason Brindle (Kirlin-Way Mechanical, LLC)		
<b>Description</b>			

### Submittal Workflow

Name	Sent Date	Due Date	Returned Date	Response	Attachments
General Information					<a href="#">combined Submittal 049 updated.pdf</a>
Natasha R	May 2, 2023	May 16, 2023		Pending	
Alex Stone	May 2, 2023	May 16, 2023		Pending	
Dylan Driscoll		May 19, 2023		Pending	



KIRLIN-WAY MECH PROJECT NAME:

KIRLIN WAY MECH  
SUBMITTAL NO:

SUBMITTAL DATA

ARCHITECT:

Submittal Date:

ENGINEER:

GENERAL CONTRACTOR:

SUBCONTRACTOR:

Specification Section:

Description:

Vendor / Supplier:

Manufacturer:

Clarifications:

Deviations:

Substitutions:

Submittal Prepared By:

Phone:

Email:

**LOCATION:** Raleigh, NC

**DATE:** 04/28/23

**SALESMAN:** Bennett Funderburk **ORDER #** 620.621.10315

**PROJECT:** *ELI LILLY Project Concord*

**ENGINEER:** *HIPP*

**CONTRACTOR:** *Kirlin Way Mechanical*

**PRODUCT(S):** *Fans - BLDG 6*

**MANUFACTURER(S):** *Greenheck*



**SUBMITTAL DATA**

**APPROVAL REQUIRED**

**HOFFMAN • HOFFMAN, INC.**

HVAC Manufacturers Representative

Website: [www.hoffman-hoffman.com](http://www.hoffman-hoffman.com)

Asheville, NC	(828) 296-0111	Charleston, SC	(843) 884-3201
Charlotte, NC	(704) 364-4700	Columbia, SC	(803) 765-9360
Raleigh, NC	(919) 781-8011	Greenville, SC	(864) 676-1888
Wilmington, NC	(910) 791-4775	Chesapeake, VA	(757) 548-1700
Chattanooga, TN	(423) 693-2890	Richmond, VA	(804) 272-1500
Knoxville, TN	(865) 540-9770	Roanoke, VA	(540) 725-8701

Corporate: Greensboro, NC (336) 292-8777

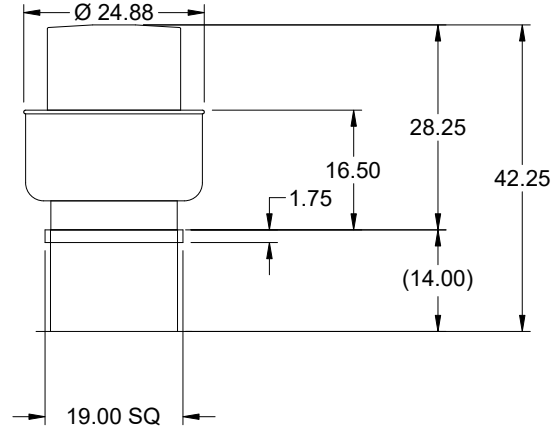
We have exercised care in the preparation of this submittal. We believe it satisfies our interpretation of the designer's intent and scope. It contains the list of materials, quantities, sizes, style and the finish as we propose to furnish for this job. Please examine and check carefully that all items are exactly as required and that our interpretation of the applicable plans and/or specifications are consistent with the design. Approval by the engineer and purchaser will be required before release of this equipment for production. If any discrepancies are discovered, please notify us as soon as possible.

**Model: CUE-120-VG**

Direct Drive Upblast Centrifugal Roof Exhaust Fan

Previously: CUE-121-VG

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	51
Weight w/ Acc's (lb)	61
Weight w/ Acc's and Curb (lb)	81
Standard Curb Cap Size (in.)	19 x 19
Optional Damper (in.)	12 x 12
Roof Opening (in.)	15.5 x 15.5

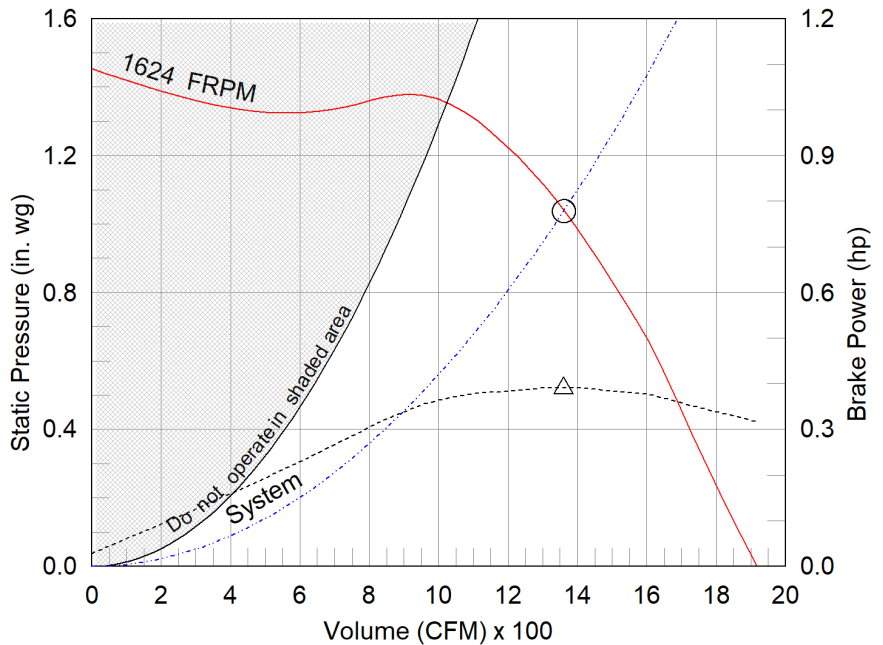


OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Performance	
Requested Volume (CFM)	1,360
Actual Volume (CFM)	1,360
Total External SP (in. wg)	1.037
Fan RPM	1624
Operating Power (hp)	0.39
Elevation (ft)	705
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.073
Tip Speed (ft/min)	5,553
Static Eff. (%)	57

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	1,063

Motor	
Motor Mounted	Yes
Size (hp)	1/2
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Efficiency Rating	High
Windings	1
FLA (Amps)	6.4
Min. Circuit Ampacity (MCA)	8
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA



- △ 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	0.287 in. wg
Total External SP	1.037 in. wg

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	81	80	87	72	68	67	61	53	80	68	16.4

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: CUE-120-VG

Direct Drive Upblast Centrifugal Roof Exhaust Fan

### Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Aluminum curb cap with prepunched mounting holes - Drain trough - 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:

Motor - Vari-Green EC motor  
Control - 0-10VDC Input, (no control provided, signal supplied by others)  
Control - Dial for balancing  
Standard Curb Cap Size - 19 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle, Shipped with Unit  
Junction Box Mounted & Wired  
Foam Curb Seal (Factory Applied)  
Birdscreen: Stainless Steel, nom. 86% Free Area  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, WD-100-PB-12X12, Gravity Operated, Not Coated, Nominal Size

### Selected Sub Marks

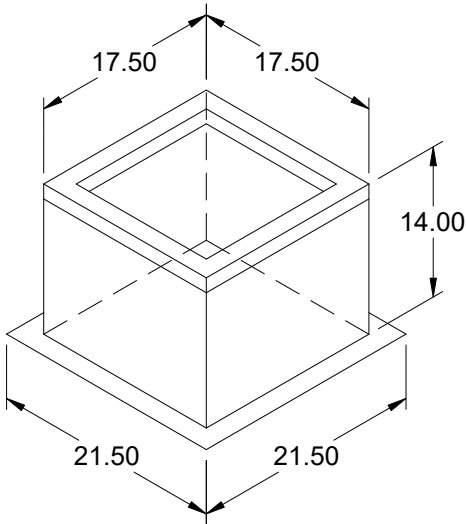
See individual submittals for full details  
GPI-19-G14

**The Vari-Green Motor included in this order has a 'Multi-Voltage' ability. The red wire on the motor is called a 'Voltage Doubler', and when it is connected the motor can be powered by 115V.**

**If the Red wire is disconnected, then the motor can be powered with 208-230/277V. The motor will leave the factory with the voltage doubler wired per the order.**

Confirm the input control signal is: 0-1VDC motor/fan off, 1-10VDC motor/fan 0-100% speed.

Per sheet CONC006-MJ-600, Note 2. FAN-4922AEX to be provided with factory supplied speed controller. Engineer please confirm.



## 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	21	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.)
14	19	19	17.5	17.5	14	14	18	18

\*May not be applicable

#### Accessories

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