



WEAVER CONSTRUCTION MANAGEMENT, INC.

3679 S. Huron St., Suite 404

Englewood, CO 80110

Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITTAL

August 15, 2011

WGC Submittal No: 15800-003

PROJECT: **Harold Thompson Regional WRF**
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: **GMS, Inc.**
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan
Sewage Disposal District**
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: **Kuck Mechanical Contractors, LLC.**
395 West 67th Street
Loveland, CO 80593
970-461-3553 Melanie Peterson

SUBJECT: Indirect Fired Air Unit - TAG: MAU-1

SPEC SECTION: 15800.2.4.D

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: ___ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver General Construction and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto:

Contractor's Stamp:

Engineer's Stamp:

Date: 8/15/11

Reviewed by: H.C. Myers

(X) Reviewed Without Comments

() Reviewed With Comments

ENGINEER'S
COMMENTS:



395 West 67th Street
P.O. Box 388
Loveland, CO 80539-0388
Phone: (970) 461-3553
Fax: (970) 461-3443

DATE: 08/10/11
SENT TO: Weaver General Contractors
Attn: John Jacob
JOB: Harold D. Thompson WRF (#01135)
CO

SUBMITTAL NO.: 00007
SUBMITTAL DUE:
PACKAGE: n/a

VENDOR NAME: CFM

SPECIFICATION #: 15800

SUBJECT: Indirect Fired Air Unit

REVIEW DETAILS:

Review #: 1	Received: 08/10/11	Priority: Normal
Desc: Indirect Fired Air Unit	Sent: 08/10/11	Status: Open
Reviewer: John Jacob	Returned:	Sepias: 0
Weaver General Contractors	Forwarded:	Prints: 0

Sent for the following action(s):

- For Approval**

 For Distribution

 For Your Use/Files

 As Req'd per

Action Needed:

Sincerely,
Melanie Peterson

Kuck Mechanical Contractors
PM Assistant
395 W. 67th Street
Loveland, CO 80538



CFM COMPANY

AIR CONDITIONING / HEATING / VENTILATING EQUIPMENT

413D North Highway 287 - Ft. Collins, CO 80524

Phone: (970) 493-7293 / Fax: (970) 493-7297

Harold Thompson WTP

TAG: MAU-1

Indirect Fired Make Up Air Unit

Submittal Date: 7/28/2011

Submitted by: Eric Larsen

SUBMITTAL

Job Title: **Wastewater Treatment Plant**

Engineer: Plant Engineering Consultant

Consultant: Mr. Chris Freer

Elevation: (ft) 6,000

Date: 07/28/11

CFM COMPANY
413D NORTH HWY 287
FORT COLLINS , CO 80524-1346
US
Phone: (970)493-7293
Fax: (970)493-7297
Email Address: samh@cfmcompany.com



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

IGX

Tempered Supply Fan

IGX-120-H32-II

CONSTRUCTION FEATURES

• Exterior housing constructed of galvanized steel • Weatherization • Removable access panels • Painted or galvanized steel blower and bearing supports • Forward curved steel blower and motor • Fan assembly is mounted on vibration isolators • Motor pulleys are adjustable through 10 hp and fixed for 15 hp and greater • Fan shaft is mounted in permanently lubricated ball bearings (up through size 118) or ball bearing pillow blocks (size 120 and greater) • Static free belts • Corrosion resistant fasteners are standard.



Selection

Heating Indirect Gas
Airflow Arrangement Outdoor Air Only
Damper Inlet Damper
Filters 2" Disposable
Unit Arrangement Horizontal
Weatherhood Louvered

Performance

Volume 12,000 CFM
Total SP 2.671 in wg
External SP 1.5 in wg
Power 10.35 hp
Fan RPM 1027

Job Properties

Elevation 6,000 ft
Winter Dry Bulb -15 F
Summer Dry Bulb 90 F
Summer Wet Bulb 63 F

Unit Configuration

Discharge Position Horizontal
Coating Baked Enamel
Baked Enamel Color Match Color Chip
Extended Lube Lines Yes
Insulation Type Double Wall
Insulation Location Entire Unit
Isolation Spring
Paneled Bottom Yes
Weatherization Yes
Mounting Options Mounting By Others
1 Set Spare Belt(s) * Yes
1 Set Spare Filters * Yes
Hinged Access Yes

Electrical Configuration

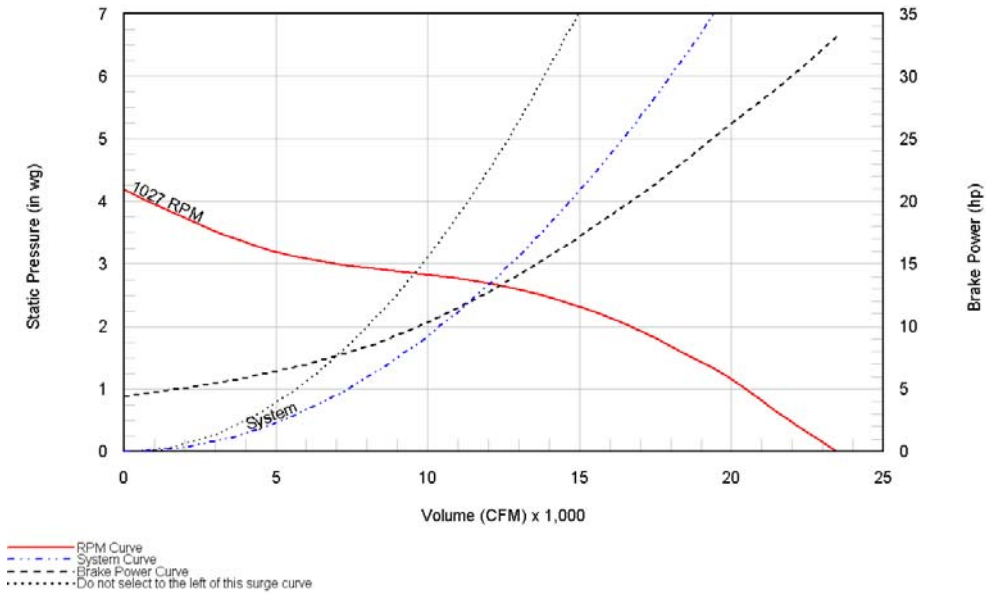
Control Center Yes
Heating Inlet Air Sensor Yes
2 NO, 2 NC on Supply Starter Yes
Service Receptacle * Yes

**Options shipped loose*

Outlet Sound Power by Octave Band

62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
84.1	100.9	95.9	88	88	85.9	83.7	74.7	94.2	83.2	46

- 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 5.0 ft.
- Noise Criteria (NC) based on an average attenuation of 11.5 dB per octave band at 5.0 ft.



IGX

Tempered Supply Fan

IGX-120-H32-II

Heating Information

Heating Type	Indirect Gas
Gas Type	Natural
Furnace Size	1,200.0 MBH
Energy Input	939.6 MBH
Energy Output	751.7 MBH
Leaving Dry Bulb	57.4 F
Heat Exch. Material	Stainless Steel
Unit Installation	Outdoor
Outdoor Venting	Standard
Furnace Control	12 to 1 Electronic
DDC Control 2-10 Vdc	Yes
Heat Ex. Warranty 5yr	Yes

Cooling Information

Cooling Type	No Cooling
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Motor Data

Mark	Fan	HP	V/C/P	Mtr. Amps	RPM	Enclosure	Efficiency
-	Supply Fan	15	460/60/3	21	1725	ODP	Premium

MCA/MOP: 28.3 / 45

Filter Data

Type	Qty	Size
2" Disposable	10	20" x 25" x 2"

Weights

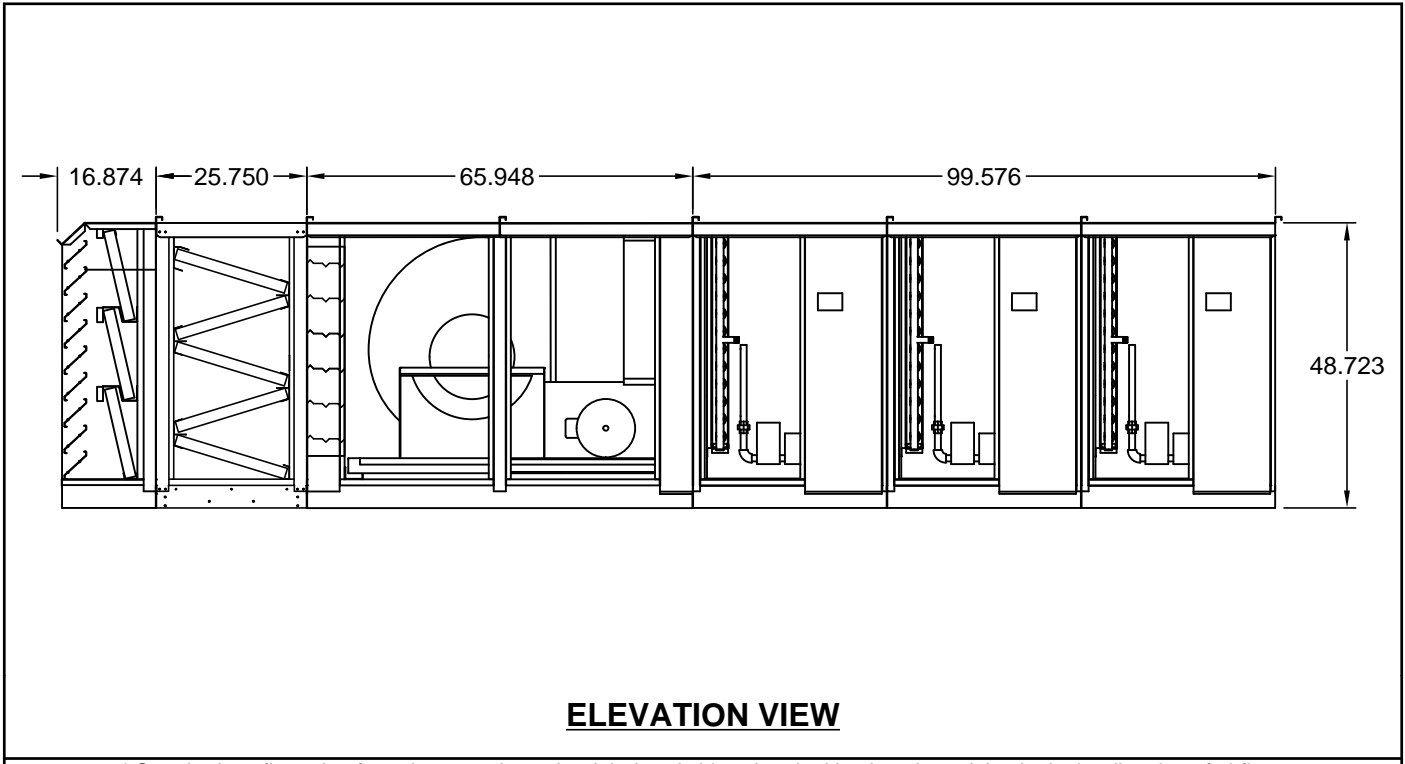
Unit Weight* : 3,199 lb

* Weight does not include accessories external to the unit (curb, exhaust fan(s), diffuser, etc).

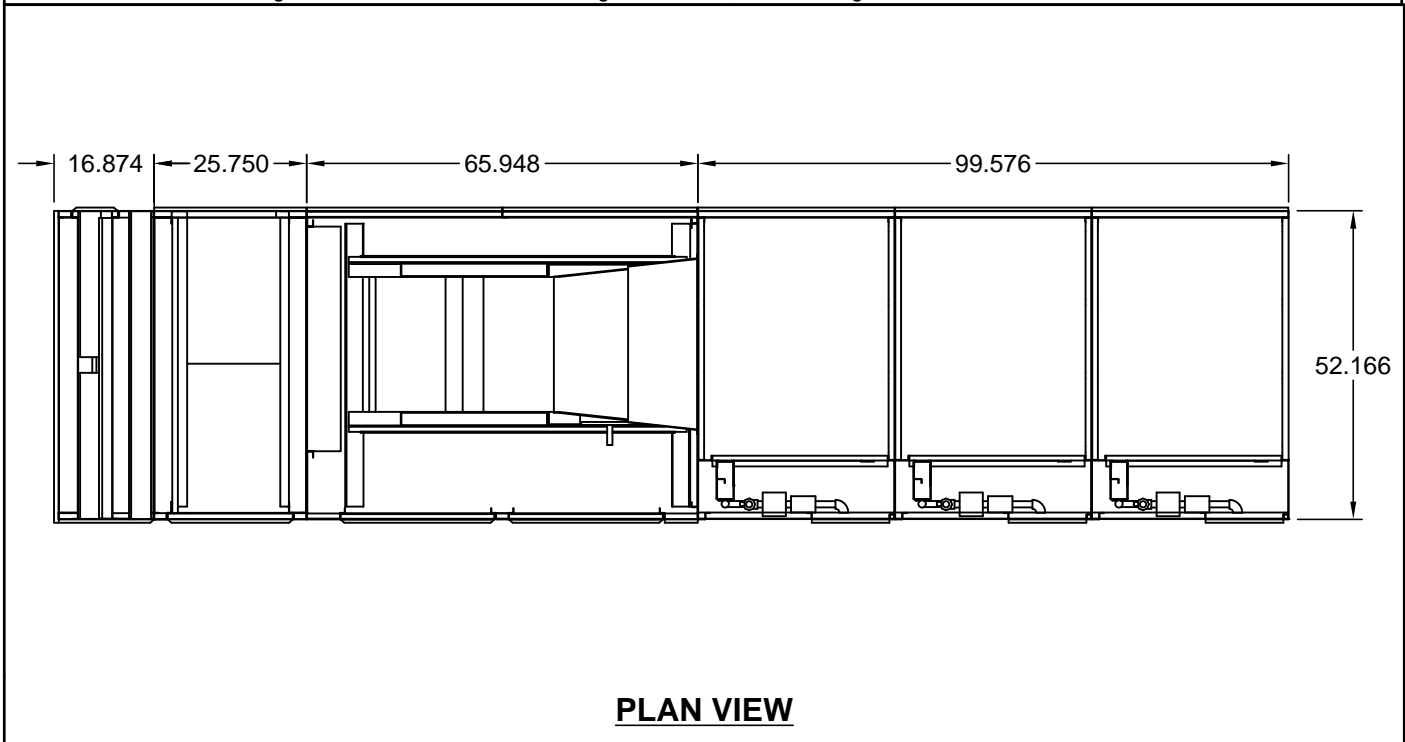
IGX

Tempered Supply Fan

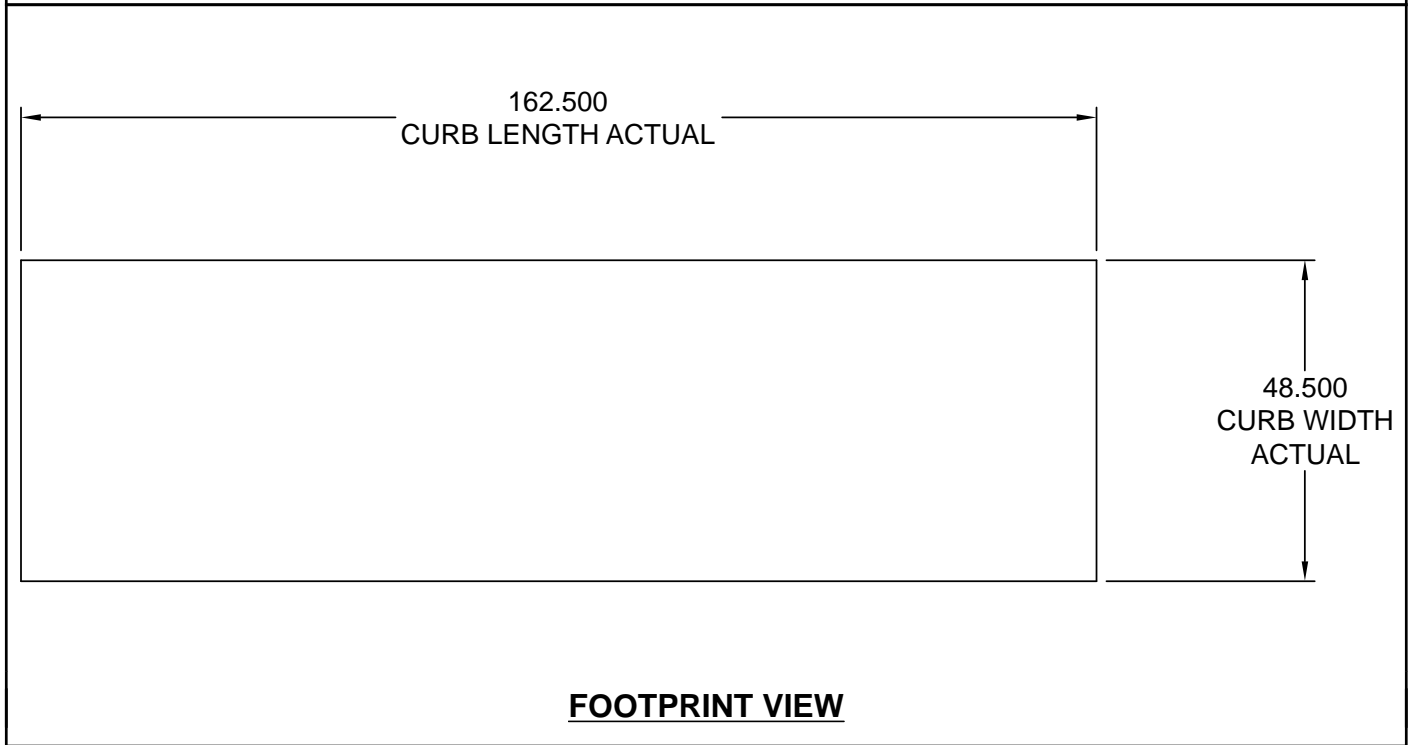
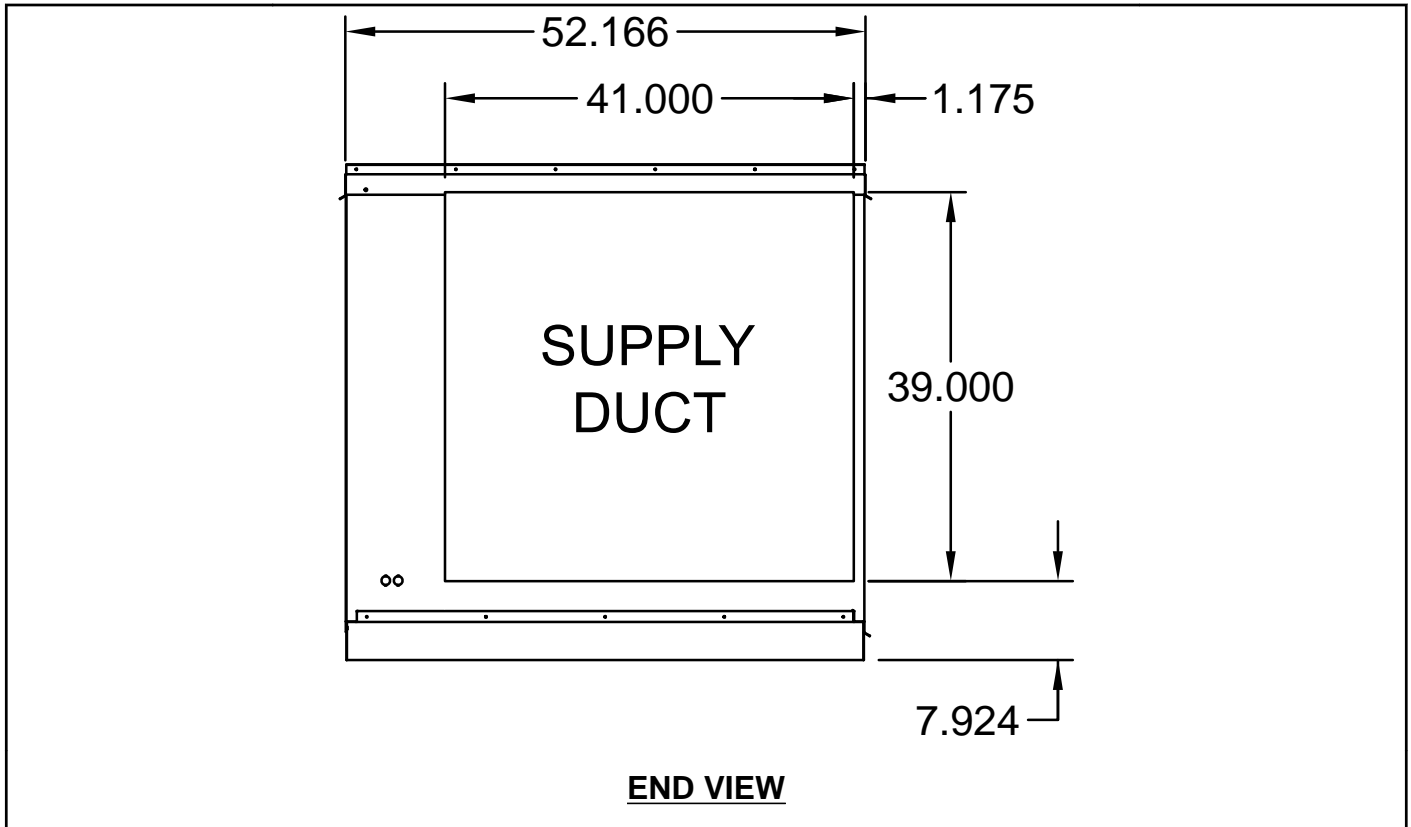
IGX-120-H32-II

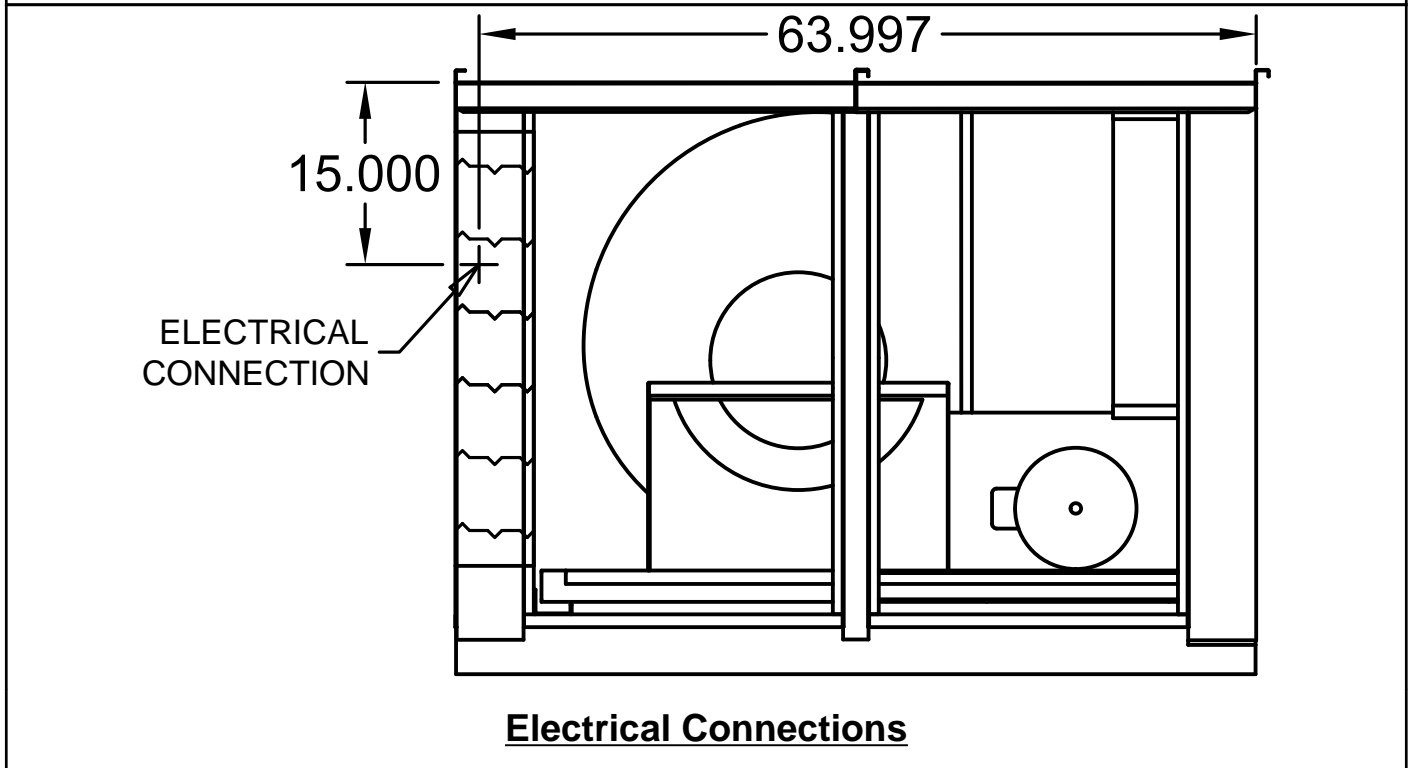
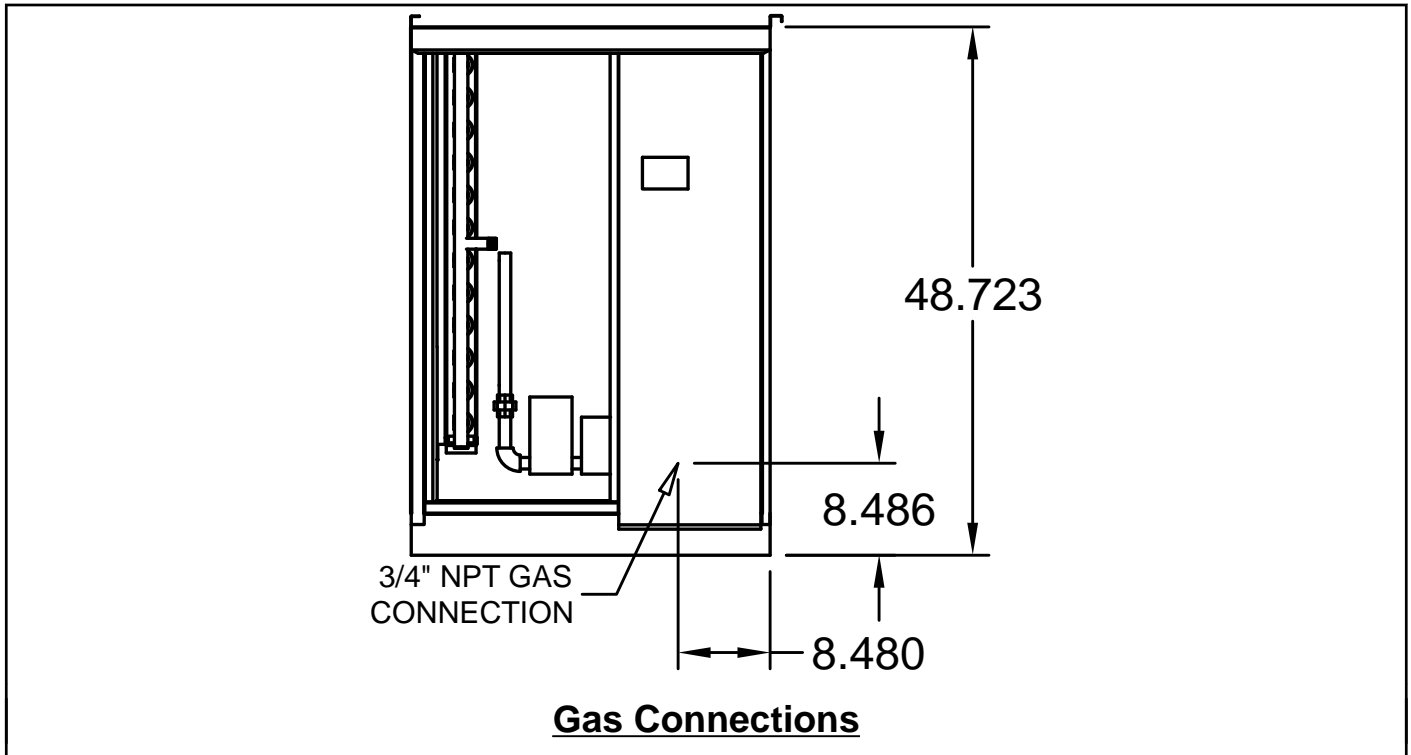


* Standard configuration for unit access is on the right-hand side, when looking into the unit intake in the direction of airflow.



* Standard configuration for unit access is on the right-hand side, when looking into the unit intake in the direction of airflow.





EQUIPMENT SCHEDULE												
Tempered Make-Up Air Unit											Mark: MAU-1	
Qty	Greenheck Model	Volume (CFM)	Total SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information					MCA
							Size (hp)	V/C/P	Encl:	Motor RPM	Windings	
1	IGX-120-H32-II	12000	2.671	1027	10.352	3199	15	460/60/3	ODP	1725	1	28.3
Heating												
Type	Gas Type	Temperature (Deg F)			Energy (MBH)			Connection Gas (IN)	Building Gas Pressure	Control Access		
		Winter DB	Max Δ	Max LAT	Input	Output	Efficiency					
Indirect Gas	Natural	-15	72.4	57.4	939.6	751.7	80%	3/4"	1/2 PSI	Right Side		
Outlet Sound Power By Octave Band								LwA	dBA	Sones		
62.5	125	250	500	1000	2000	4000	8000					
84.1	100.9	95.9	88	88	85.9	83.7	74.7	94.2	83.2	46		
<ul style="list-style-type: none"> • LwA - A weighted sound power level based on ANSI S1.4 • dBA - A weighted sound pressure level base on 11.1 dB attenuation per octave band at 5.0 ft. • Noise Criteria (NC) based on an average attenuation of 11.5 dB per octave band at 5.0 ft. 												
OPTIONS AND ACCESSORIES												
Air Flow Arrangement - Outdoor Air Only - 100% OSA Horizontal Unit - Louvered Intake w/ 2" Aluminum Mesh Filters - Filter Section w/2" Disposable Filters Outdoor Unit Installation - Standard Outdoor Venting Discharge Position - Horizontal - No Diffuser Inlet Damper Inlet Air Sensor - Heating Control Center Factory Coating - BakedEnamel - Match Color Chip Service Receptacle Blower Isolation - Spring Spare Set of Belts - Quantity 1 Spare Set of Filters - Quantity 1												

Wiring Diagram

I34A60AAA01N10N006

CAUTION
UNIT SHALL BE GROUNDED IN
TO POWER MUST BE OFF WHILE SERVICING

WIRE COLOR CODE	
BK	BLACK
BR	BROWN
G	GREEN
O	ORANGE
PR	PURPLE
W	WHITE
Y	YELLOW

- NOTES**
1. WIRING TO SENSOR OR SELECTOR TO BE IN SETBACK POSITION TO BE USED WITH SHIELDED CABLE.
 2. 0 TO 99 TERMINAL BLOCK VOLT.
 3. USE COPPER CONDUCTORS ONLY, 60 DEGREE CULOUS MINIMUM FOR FIELD CONNECTIONS.
 4. ALL FIELD WIRING TO BE TERMINALS AND SUPPLY GROUND LUG TO 20 IN. LBS.
 5. FIELD WIRE _____
 6. FACTORY SUPPLIED AND WIRED _____

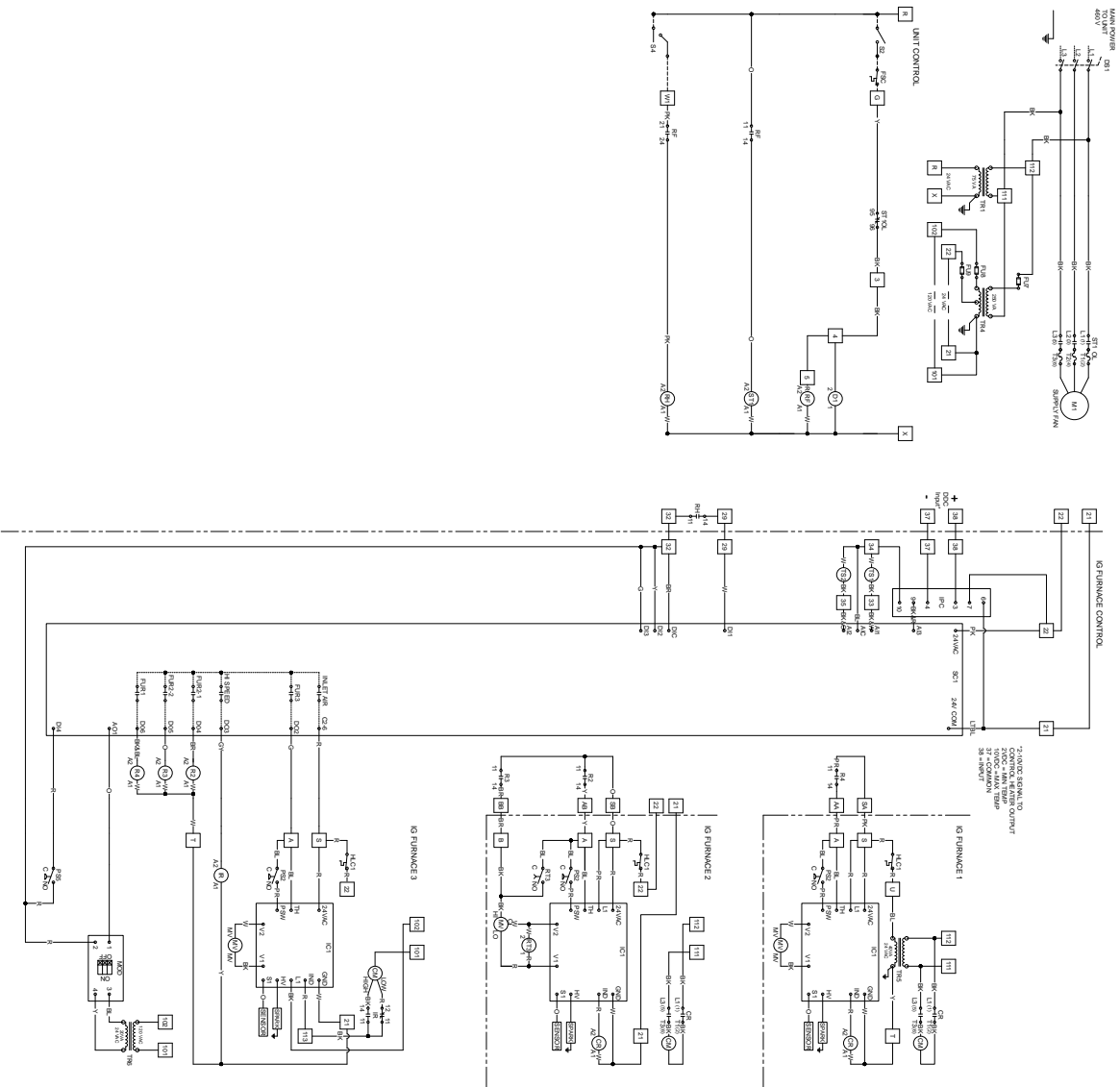
FACTORY SUPPLIED COMPONENTS

AMP	AMPLIFIER
CM	COMBUSTION FAN
CR	CONTROL RELAY
DI	INLET DAMPER
DS1	MAIN DISCONNECT
FLU	FLUZE
HLC#	HIGH LIMIT CONTROL
HLC#	HIGH LIMIT CONTROL
IPC	INPUT CONVERTER
IR	INDUCTION RELAY
M1	SUPPLY FAN MOTOR
MCD	MODULATING VALVE
MO	MOTOR
MS	MANUAL STARTER
OL	SUPPLY OVERLOAD
PS2	AIR PROVING SWITCH
PS5	HIGH SPEED PRESSURE SWITCH
R	RELAY
RT	TEMPERATURE RELAY
RH	HEAT RELAY
RT3	HIGH FIRE TIME RELAY
SC#	STAGE CONTROLLER
S11	SUPPLY MOTOR STARTER
S12	STAGE CONTROLLER
TS1	OUTDOOR AIR SENSOR
TS2	DISCHARGE AIR SENSOR

FIELD SUPPLIED COMPONENTS

FSC	FIRE SYSTEM CONTACT
S2	SUPPLY FAN SWITCH
S4	HEAT AND COOL SWITCH

Manufacturer reserves the right to change, modify, or improve this product at anytime



IGX

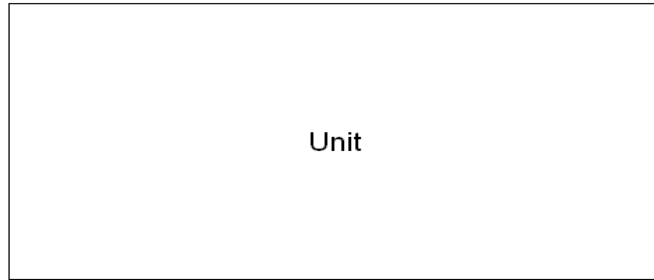
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IGX-120-H32-II

Corner Weights

737 lb

862 lb



737 lb

863 lb

Note: Estimated corner weights are shown looking down on unit and airflow from left to right. Weights are applied at the base of the unit. Images not drawn to scale.

Heat Exchanger Extended Warranty

Limited Warranty

Greenheck warrants the stainless steel heat exchanger to be free from defects in material and workmanship for a period of 5 years from the purchase date. Any stainless steel heat exchanger which proves defective during the warranty period will be repaired, or replaced, at Greenheck's sole option when returned to our factory, transportation prepaid.

The warranty does not include labor costs associated with troubleshooting, removal, or installation. Greenheck will not be liable for any consequential, punitive, or incidental damages resulting from use, repair, or operation of any Greenheck product.

This warranty is exclusive, and is in lieu of all other warranties, whether written, oral or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose.