

Radius Construction
 409 W 35th Street
 Covington KY 41015

Submittal Cover Sheet

To: GRANT COUNTY

Project Name: GRANT COUNTY
 ATC
 RENOVATION &
 ADDITION.

Spec. Section No: 238146

Submittal No: 11

Submittal Description: GEOTHERMAL WATER SOURCE HEAT PUMPS

Revision No: 0

The attached submittal has been reviewed for general compliance and incorporation into the project. Subcontractor/Supplier is responsible for quantities, sizing, capacity, proper function and coordinating all requirements for this material/equipment/system in full compliance with the contract documents.

Reviewed by

Franco ABBINANTE and
 Sandrin BWONGERA

Date:

07/12/2023

Project Manager / Assistant Project Manager

Engineer Review Stamp

Architect Review Stamp

SHOP DRAWING REVIEW	
ENGINEER'S REVIEW	RESPONSE REQUIRED OF CONTRACTOR
<input checked="" type="checkbox"/> No Exceptions Taken <input type="checkbox"/> Rejected <input type="checkbox"/> Note Markings <input type="checkbox"/> Comments Attached	<input type="checkbox"/> Confirm <input type="checkbox"/> Resubmit
<small>Engineer's review is for general conformance with the design concept as it relates to Engineer's scope of services. Contractor shall remain responsible for compliance with the project's contract documents and specifications. Markings, comments or lack of any notation shall not be construed as relieving the Contractor from this responsibility. Under no circumstances shall submittal and review of shop drawings be interpreted as acceptance of a modification or change to the contract documents. The Contractor remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, and for performing its work in a safe manner.</small>	
SHROUT TATE WILSON CONSULTING ENGINEERS By: Glen Knauer Date: 07/18/23	

SHOP DRAWING REVIEW	
REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS	
CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTNESS OF DETAILS AND DIMENSIONS	
<input type="checkbox"/> NO EXCEPTIONS TAKEN	<input checked="" type="checkbox"/> EXCEPTIONS NOTED TRANSMIT RECORD COPIES
<input type="checkbox"/> CORRECT and RESUBMIT	
GOP Limited Structural Engineers	
Date 8/3/23	By dac

**REVIEWED FOR
 UNIT WEIGHT
 AFFECT ON ROOF
 STRUCTURE ONLY**

TRANSMITTAL

REVIEWED
Radius Construction
No Exceptions Noted
Franco Abbinante/ Sandrin Bwongera
Date: 7.05.2023

To: **Radius Construction**
409 W 35th Street
Covington, KY 41015

DATE: 6/22/2023

Radius Construction Co., Inc.

- Job Name:** Grant County ATC
- Reviewed
 - (A/N) Approved As Noted
 - (RR) Revise and Resubmit
 - (REJ) Rejected
 - (SUB) Submit Specified Item

Email fabbinante@radius1.com

ATTN: Franco Abbinante

Hudson Piping Inc. respectfully submits the following:

<input checked="" type="checkbox"/>	Shop Drawings
<input type="checkbox"/>	Literature
<input type="checkbox"/>	Contract Documents

These are submitted as follows:

<input checked="" type="checkbox"/>	For Approval
<input type="checkbox"/>	For Your Files
<input type="checkbox"/>	For Credit
<input type="checkbox"/>	Approved As Noted
<input type="checkbox"/>	Correct & Resubmit

Submittal review only checks that the details in the shop drawings generally comply with the Design Requirements stipulated in the plans and specifications by the design. Any action shown is subject to the requirements of the plans and specifications. Subcontractor is responsible for dimensions which shall be confirmed and correlated at the jobsite; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

Reviewed By: Franco Abbinante/ Sandrin Bwongera

Date: _____

Please make necessary corrections and return 1 copy to Hudson Piping Inc.

Copies	Description	Spec. No.
1	Geothermal Water Source Heat Pumps	238146

REMARKS:

Respectfully submitted,


BRIAN HUDSON
email bhudson@hudsonpiping.com

Submittal:
Grant County ATC
Addition and Renovation
715 Warsaw Road
Dry Ridge, KY 41035

Architect:
R. Ehmet Hayes & Associates
2512 Dixie Highway
Ft. Mitchell, KY 41017

Mechanical Engineer:
Shrout Tate Wilson
628 Winchester Road
Lexington, KY 40505

Submitted By:
Mechanical Contractor
Hudson Piping Inc.
836 Walnut Street
Dayton, KY 41074

Project #1874

06/22/2023

Reviewed By: Brian Hudson

Section
238146

Description
Geothermal Water Source Heat Pumps



Cincinnati Office
11325 Reed Hartman Hwy, Suite 100
Cincinnati, OH 45241
(513) 475-3800

Columbus Office
6155A Huntley Road
Columbus, OH 43229
(614) 360-1330

Dayton Office
Location Coming Soon

June 13, 2023

Submittal Number: 23-101-0613-2

DAIKIN WATER-SOURCE HEAT PUMP SUBMITTAL DATA

Job Name: Grant County ATC – Addition and Renovations

**Customer: Hudson Piping Inc.
836 Walnut Street
Dayton, KY 41074**

**Engineer: Shrout Tate Wilson
628 Winchester Road
Lexington, KY 40505**

Daikin Water-Source Heat Pumps

Tag(s)	Qty	Description
HP-8A	1	2.5 Ton, Two Stage, Horizontal WSHP
HP-42A	1	3.5 Ton, Two Stage, Horizontal WSHP

Submittal Notes 06-13-2023:

- Separate submittal will follow for hose kits.
- NOT INCLUDED:
 - BACnet card of any kind – TCC to provide BACnet thermostat per specs
 - Control valve of any kind – TCC to provide control valve per specs

Tom Haun
513-280-2446
thaun@elitaire.com
ElitAire, Inc.

Job Information		Technical Data Sheet
Job Name	Grant County ATC	
Date	6/13/2023	
Submitted By	Keith Greene	
Software Version	11.80	
Unit Tag	HP-8A	



Unit Overview									
Model Number	Voltage V/Hz/Phase	Airflow CFM	Fluid Flow gpm	Cooling Capacity Btu/hr	Cooling Efficiency EER@AHRI	Cooling Efficiency EER@Design	Heating Capacity Btu/hr	Heating Efficiency COP@AHRI	Heating Efficiency COP@Design
WGDH030	208-230/60/3	1075	7.50	26093	15.7	11.9	29434	3.2	3.9

Unit			
Model Number:	WGDH030		
Unit Type:	SmartSource Compact - Dual Stage		
Approval:	ETL, CETL, AHRI		
Configuration	Refrigerant Type	Refrigerant Weight	Loop Temperature Range
Horizontal	R-410A	36.0 oz	Ground Loop (Geothermal)

Unit Performance

Air & Fluid Flow				
Airflow Full (Part)	Total External Static Pressure Full (Part)	Fluid Flow	Fluid Type	Altitude
1075 (1000) CFM	0.50 (0.50) inH ₂ O	7.50 gpm	Water	0 ft

Cooling Performance											
Performance	Fluid Temperature		Air Temperature				Capacity		Heat of Rejection Btu/hr	EER @ design	Fluid Pressure Drop ft H ₂ O
	Entering °F	Leaving °F	Entering		Leaving		Total	Sensible Btu/hr			
			Dry Bulb °F	Wet Bulb °F	Dry Bulb °F	Wet Bulb °F					
Full Load	85.0	94.0	75.0	63.0	58.4	54.5	26093	19315	33573	11.9	13.96
Part Load	60.0	67.3	70.0	59.0	54.1	50.4	23034	17231	27316	18.4	14.66

Heating Performance									
Performance	Fluid Temperature		Air Temperature		Capacity Total Btu/hr	Heat of Absorption Btu/hr	COP @ design	Fluid Pressure Drop ft H ₂ O	
	Entering °F	Leaving °F	Entering	Leaving					
			Dry Bulb °F	Dry Bulb °F					
Full Load	50.0	44.1	68.0	93.2	29434	21944	3.9	15.02	
Part Load	75.0	68.9	70.0	96.5	28751	22942	4.9	14.21	

Electrical			
Unit Voltage	Minimum Voltage	Total Unit Full Load Current	Total Unit MCA
208-230/60/3	197 v	11.5 A	13.7 A
Compressor RLA	Compressor LRA	Motor FLA	Maximum Recommended Fuse Size / HACR Breaker Size
8.7 A	58.0 A	2.8 A	20 A


*Short-Circuit Current = 5 kA rms symmetrical, 600 V maximum

Physical						
Unit						
Length	Height	Width	Weight		Connection	
			Shipping	Operating	Water	Condensate
42.9 in	17.3 in	19.9 in	209 lb	182 lb	0.75 in	0.75 in
Fan						
Motor Type			Motor Horsepower			
ECM Constant CFM			0.33 hp			

Unit Options	
Controls	
Unit Control:	Microtech III
Control Transformer:	Standard 50 VA Transformer
Thermostat / Sensor Control:	Thermostat Control
Unit Airflow Configuration	
Return Air Location:	Right Hand
Discharge Air Location:	Straight

Construction Options	
Cabinet	
Finish:	Galvanized
Drain Pan Material	
Primary:	Stainless Steel
Filters	
Filter Rack Type:	2-inch 4-Sided
Filter Type:	2-inch MERV 8
(Quantity) Nominal Filter Dimensions:	(1) 24 in x 16 in x 2 in
Insulation	
Compressor Compartment:	1/2 inch Fiberglass, Skin-faced
Air Compartment:	1/2 inch Fiberglass, Skin-faced
Miscellaneous	
Coil Treatment:	None
Unit Disconnect Switch:	Disconnect Switch
Dehumidification:	Simplified Dehumidification (Lower CFM no HGRH or no Humidistat)

Warranty	
Unit Warranty:	4 Yr Compressor Only Extended Parts Warranty, 1st Yr Labor Allowance

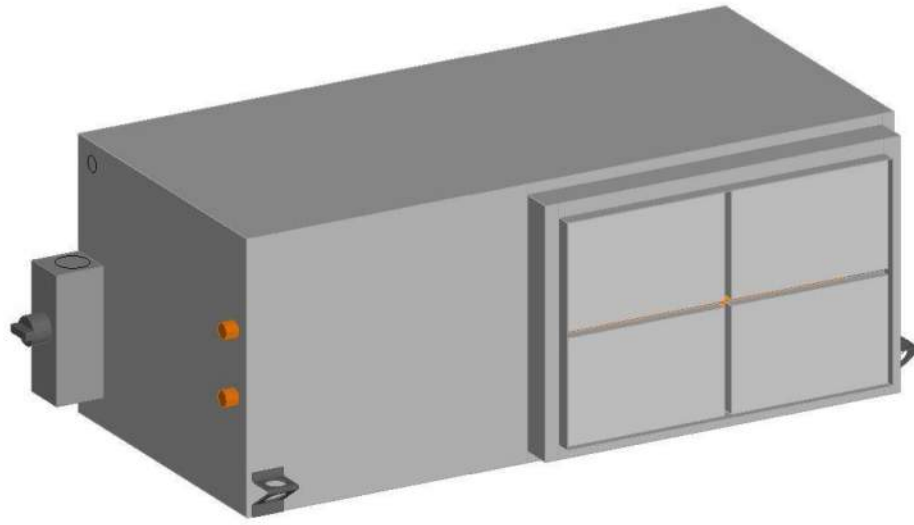
AHRI Certification	
	<p>All equipment is rated and certified in accordance with AHRI / ISO 13256-1 and tested, investigated, and determined to comply with the requirements of the standards for Heating and Cooling Equipment UL 60335-2-40 Version 2 for the United States and CAN/CSA-C22.2 NO. 60335-2-40 Version 2 for Canada.</p>

SHIHYS

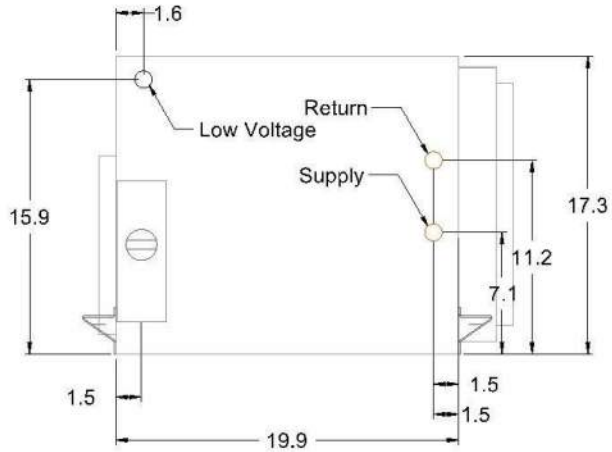
Grant County ATC

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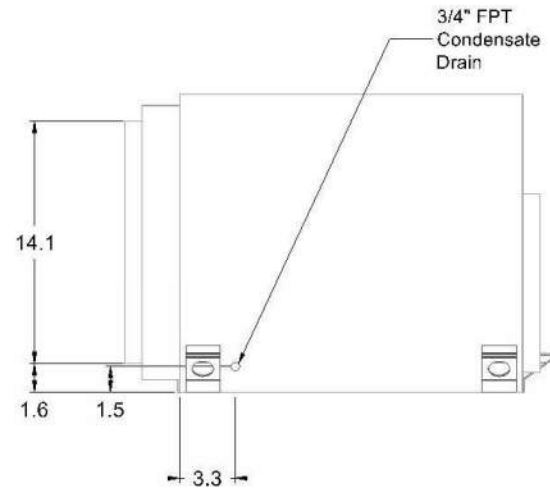
6/13/2023



Model View



Left View



Right View

HP-8A

Drawings(1)

Product Drawing

Unit Tag: HP-8A

Sales Office: ElitAire, Inc.

Product:

Project Name: Grant County ATC

Sales Engineer: Tom Haun

Model: WGDH030

June 13, 2023

Ver/Rev:

Sheet: 1 of 1

Scale: NTS

Tolerance: +/- 0.25"

Dwg Units: (in)



13600 Industrial Park Blvd. Minneapolis, MN 55441
 www.DaikinApplied.com Software Version: 11.80

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

SHIHYS

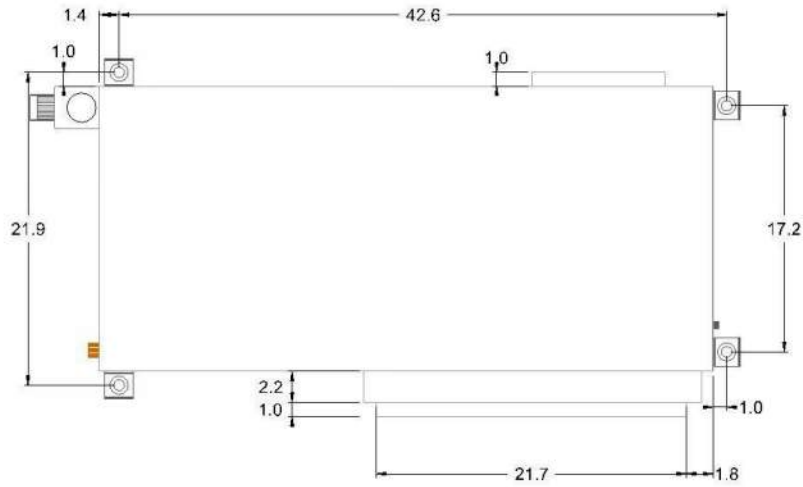
Grant County ATC

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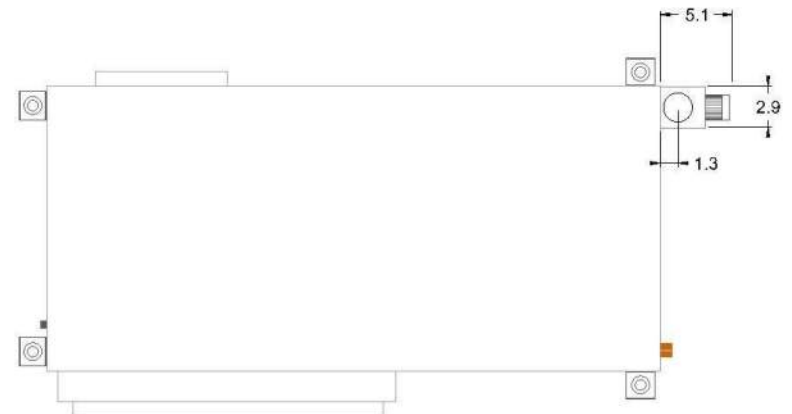
6/13/2023

HP-8A

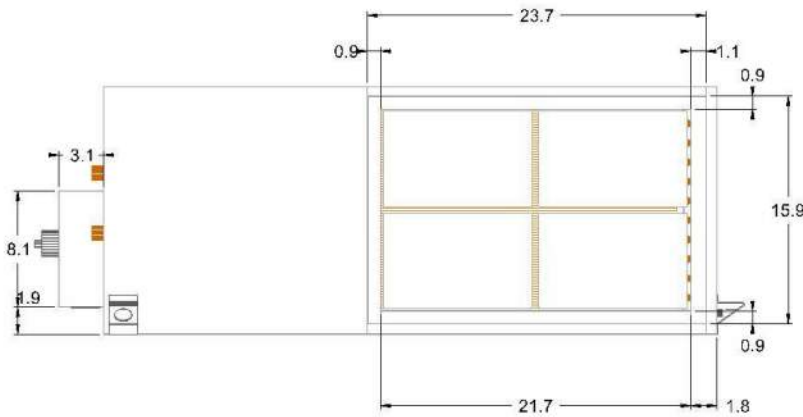
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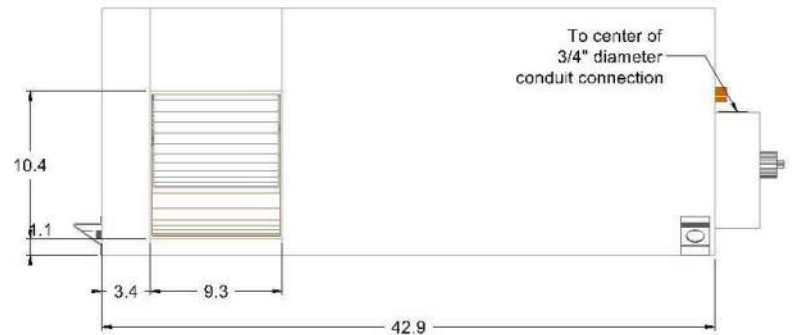
Top View




Bottom View



Front View



Back View

Product Drawing		Unit Tag: HP-8A		Sales Office: ElitAire, Inc.			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 11.80
Product:		Project Name: Grant County ATC		Sales Engineer: Tom Haun			
Model: WGDH030		June 13, 2023	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: (in)

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

Job Information		Technical Data Sheet
Job Name	Grant County ATC	
Date	6/13/2023	
Submitted By	Keith Greene	
Software Version	11.80	
Unit Tag	HP-42A	



Unit Overview									
Model Number	Voltage V/Hz/Phase	Airflow CFM	Fluid Flow gpm	Cooling Capacity Btu/hr	Cooling Efficiency EER@AHRI	Cooling Efficiency EER@Design	Heating Capacity Btu/hr	Heating Efficiency COP@AHRI	Heating Efficiency COP@Design
WGDH042	208-230/60/3	1400	10.50	37557	16.9	12.4	39156	3.3	3.7

Unit			
Model Number:	WGDH042		
Unit Type:	SmartSource Compact - Dual Stage		
Approval:	ETL, CETL, AHRI		
Configuration	Refrigerant Type	Refrigerant Weight	Loop Temperature Range
Horizontal	R-410A	48.0 oz	Ground Loop (Geothermal)

Unit Performance

Air & Fluid Flow				
Airflow Full (Part)	Total External Static Pressure Full (Part)	Fluid Flow	Fluid Type	Altitude
1400 (1225) CFM	0.50 (0.50) inH ₂ O	10.50 gpm	Water	0 ft

Cooling Performance											
Performance	Fluid Temperature		Air Temperature				Capacity		Heat of Rejection Btu/hr	EER @ design	Fluid Pressure Drop ft H ₂ O
	Entering °F	Leaving °F	Entering		Leaving		Total	Sensible Btu/hr			
			Dry Bulb °F	Wet Bulb °F	Dry Bulb °F	Wet Bulb °F					
Full Load	85.0	94.1	75.0	63.0	57.0	53.6	37557	27314	47855	12.4	15.13
Part Load	60.0	66.4	70.0	59.0	54.6	50.4	28056	20523	33459	17.7	15.89

Heating Performance									
Performance	Fluid Temperature		Air Temperature		Capacity Total Btu/hr	Heat of Absorption Btu/hr	COP @ design	Fluid Pressure Drop ft H ₂ O	
	Entering °F	Leaving °F	Entering	Leaving					
			Dry Bulb °F	Dry Bulb °F					
Full Load	50.0	44.5	68.0	93.8	39156	28702	3.7	16.28	
Part Load	75.0	69.6	70.0	96.9	35843	28341	4.8	15.40	

Electrical			
Unit Voltage	Minimum Voltage	Total Unit Full Load Current	Total Unit MCA
208-230/60/3	197 V	20.1 A	23.7 A
Compressor RLA	Compressor LRA	Motor FLA	Maximum Recommended Fuse Size / HACR Breaker Size
14.2 A	88.0 A	5.9 A	35 A


*Short-Circuit Current = 5 kA rms symmetrical, 600 V maximum

Physical						
Unit						
Length	Height	Width	Weight		Connection	
			Shipping	Operating	Water	Condensate
48.9 in	19.0 in	21.4 in	273 lb	236 lb	0.75 in	0.75 in
Fan						
Motor Type			Motor Horsepower			
ECM Constant CFM			0.75 hp			

Unit Options	
Controls	
Unit Control:	Microtech III
Control Transformer:	Standard 50 VA Transformer
Thermostat / Sensor Control:	Thermostat Control
Unit Airflow Configuration	
Return Air Location:	Right Hand
Discharge Air Location:	Straight

Construction Options	
Cabinet	
Finish:	Galvanized
Drain Pan Material	
Primary:	Stainless Steel
Filters	
Filter Rack Type:	2-inch 4-Sided
Filter Type:	2-inch MERV 8
(Quantity) Nominal Filter Dimensions:	(1) 30 in x 18 in x 2 in
Insulation	
Compressor Compartment:	1/2 inch Fiberglass, Skin-faced
Air Compartment:	1/2 inch Fiberglass, Skin-faced
Miscellaneous	
Coil Treatment:	None
Unit Disconnect Switch:	Disconnect Switch
Dehumidification:	Simplified Dehumidification (Lower CFM no HGRH or no Humidistat)

Warranty	
Unit Warranty:	4 Yr Compressor Only Extended Parts Warranty, 1st Yr Labor Allowance

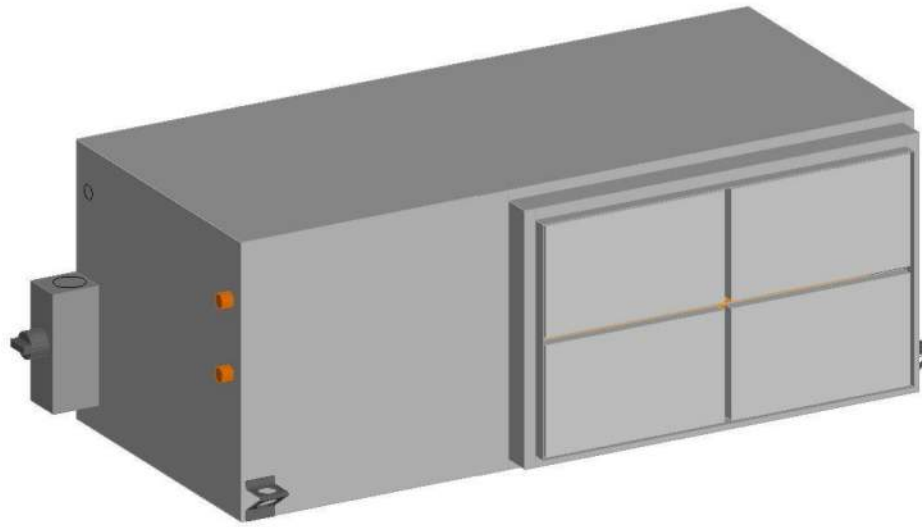
AHRI Certification	
	<p>All equipment is rated and certified in accordance with AHRI / ISO 13256-1 and tested, investigated, and determined to comply with the requirements of the standards for Heating and Cooling Equipment UL 60335-2-40 Version 2 for the United States and CAN/CSA-C22.2 NO. 60335-2-40 Version 2 for Canada.</p>

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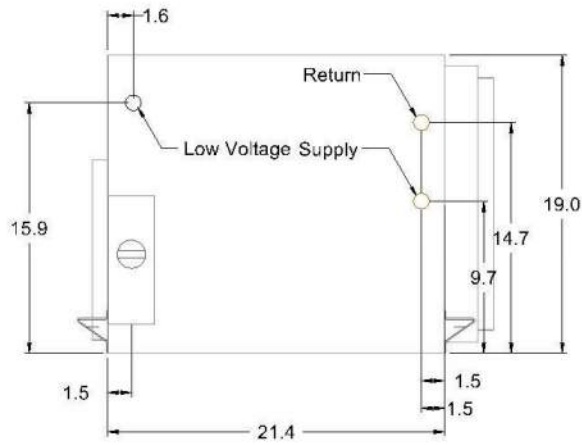
Grant County ATC

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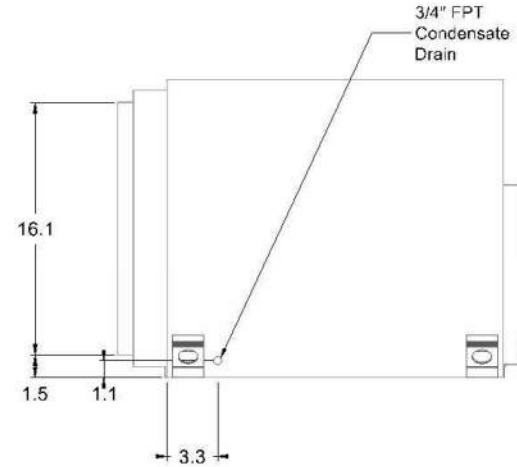
6/13/2023



Model View



Left View



Right View

HP-42A

Drawings(1)

Product Drawing

Product:

Model: WGDH042

Unit Tag: HP-42A

Project Name: Grant County ATC

June 13, 2023

Ver/Rev:

Sheet: 1 of 1

Sales Office: ElitAire, Inc.

Sales Engineer: Tom Haun

Scale: NTS

Tolerance: +/- 0.25"

Dwg Units: (in)



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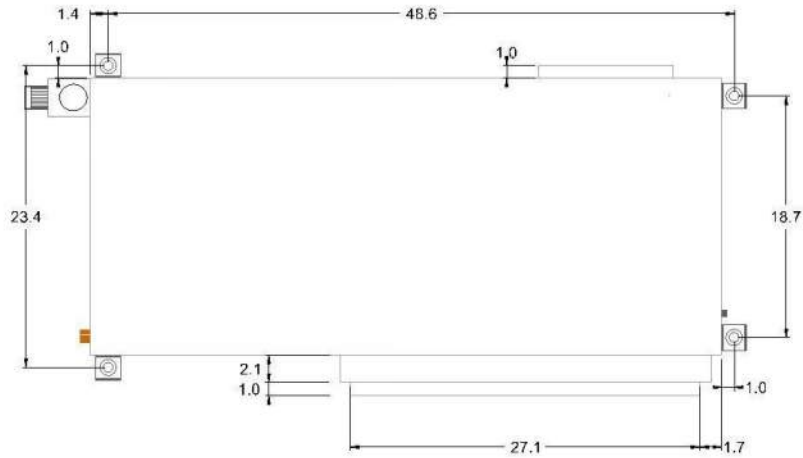
Grant County ATC

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6/13/2023

HP-42A

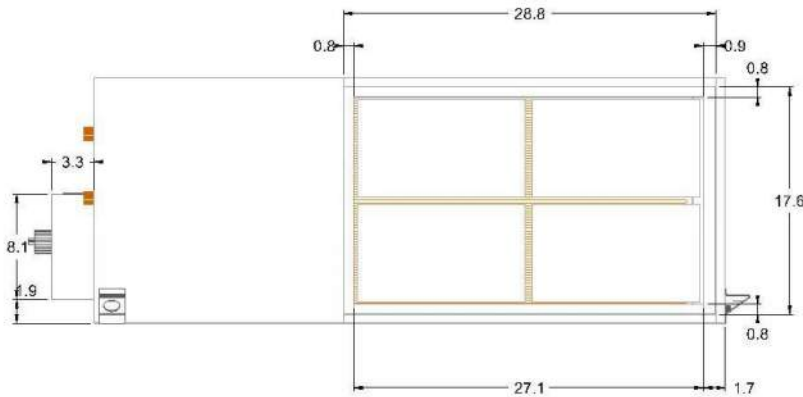
Drawings(2)



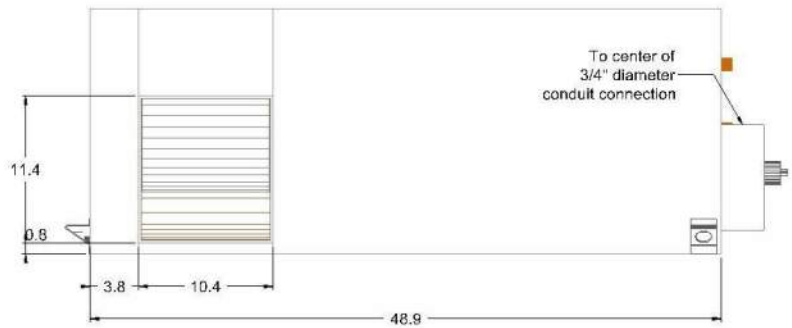
Top View



Bottom View



Front View



Back View

Product Drawing

Unit Tag: HP-42A

Sales Office: ElitAire, Inc.

Product:

Project Name: Grant County ATC

Sales Engineer: Tom Haun

Model: WGDH042

June 13, 2023

Ver/Rev:

Sheet: 1 of 1

Scale: NTS

Tolerance: +/- 0.25"

Dwg Units: (in)



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