



SUBMITTAL SHEET

Edifice, LLC
NC4205 . - CMS New Elementary School Hidden Valley JW Grier Newell (17)

Project: NC4205 .
CMS New Elementary School Hidden Valley JW Grier
Newell (17)
7515 The Plaza
Charlotte, NC
28215

Spec Section Num: 237313
Submittal: 237313.001
Revision: 2
Package:
Date: 6/7/2022 EDT

Submittal Title: Modular Indoor Central-Station Air-Handling Units Product Data Revision #3
Submittal Detail:
Response Due By: 5/16/2022 EDT

Contractor:
Malachi Alexander
Edifice, Inc.

Contractor's Stamp

THIS REVIEW IS FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT THE SUBCONTRACTOR / VENDOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND COORDINATED IN THE FIELD AND REMAINS RESPONSIBLE FOR VERIFICATION OF ALL QUANTITIES. EDIFICE IS NOT RESPONSIBLE FOR ANY DEVIATION FROM THE CONTRACT DOCUMENTS. DEVIATIONS AND / OR SUBSTITUTIONS MUST BE CLEARLY IDENTIFIED. APPROVAL OF ANY DEVIATIONS / SUBSTITUTIONS MUST BE MADE BY OWNER OR DESIGN TEAM.

Architect:
Bill Nord
Optima Engineering, pa

Architect's Stamp

SHOP DRAWING REVIEW 

- NO EXCEPTION TAKEN
- APPROVED AS NOTED
- REVISE AND RESUBMIT
- REJECTED

REVIEW IS FOR GENERAL COMPLIANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS. MECHANICAL CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR CORRECTNESS, DIMENSIONS, DETAILS, QUANTITIES AND ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT, INCLUDING MAINTENANCE ACCESS, CLEARANCES, BUILDING ALTERATIONS, REPLACEMENT OF OTHER SYSTEM COMPONENTS, ETC.

BY DATE

Response:
Comment:

All cost associated with substituted equipment to comply with basis of design, including providing maintenance access, clearance, piping, sheet metal, electrical, replacement of other system components, building alterations, etc. will be the responsibility of the mechanical contractor. This includes any modifications to any associated mechanical, plumbing, or electrical systems required by this specific manufacturer's installation instructions

THIS REVIEW IS FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT THE SUBCONTRACTOR / VENDOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND COORDINATED IN THE FIELD AND REMAINS RESPONSIBLE FOR VERIFICATION OF ALL QUANTITIES. EDIFICE IS NOT RESPONSIBLE FOR ANY DEVIATION FROM THE CONTRACT DOCUMENTS. DEVIATIONS AND / OR SUBSTITUTIONS MUST BE CLEARLY IDENTIFIED. APPROVAL OF ANY DEVIATIONS / SUBSTITUTIONS MUST BE MADE BY OWNER OR DESIGN TEAM.



SUBMITTAL

Project

CMS Hidden Valley, Grier, Newell

Date

May 27, 2022

Mechanical Engineer

Optima Engineering

Mechanical Contractor

Superior Mechanical Systems Inc.

In accordance with Specification Section 237313

MODULAR INDOOR CENTRAL-STATION AIR-HANDLING UNITS

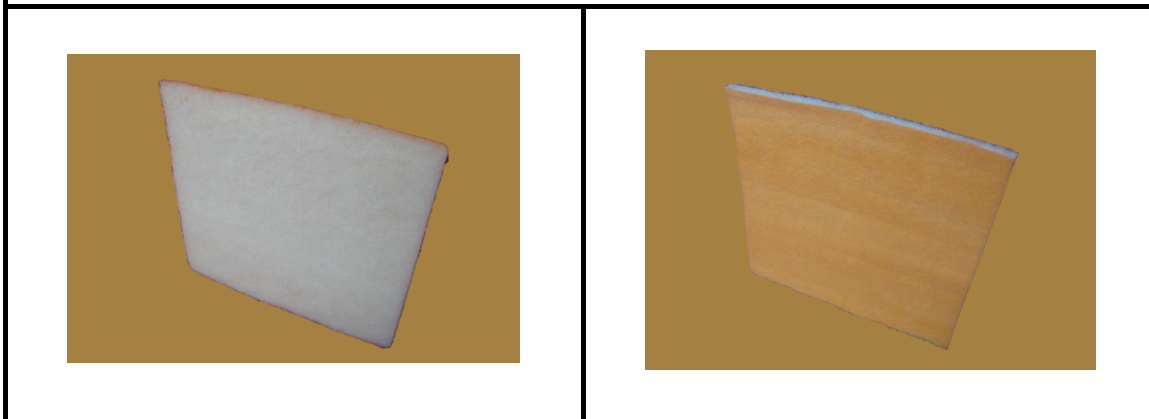
Notes:

1. Cabinets are painted
2. Motors are TEFC
3. Metal frame and MERV 10 media pads will be furnished for all filters
4. VFDs and GPS are by others
5. Please coordinate with the VFD supplier to provide the correct HP VFDs
6. VFDs control the motors so the unit SCCR rating and phase loss protection come from the VFDs.
7. There are very minor variances on some coil APD. These are overcome by the fans on the units.
8. The doors in 39M units usually open against pressure, but there are some instances where there are items inside the unit that prevent inward swing doors. When that happens the door must swing out, but come with a safety latch that stops the door from opening completely until the handle is moved again.
9. Please verify AHU handing configurations are below are correct:

AHU-1 - Left	AHU-5 - Right
AHU-2 - Right	AHU-6 - Left
AHU-3 - Right	AHU-7 - Left
AHU-4 - Left	AHU-8 - Left
	AHU-9 - Right

 <p>2820 S. English Station Road - Louisville, KY 40299 Tel: (502) 357-0132 Fax (502) 267-8379</p>	Date: 23-Oct-17 TEST NO. 17-607-1A <h2 style="text-align: center;">ASHRAE Standard 52.2-2017</h2> <h3 style="text-align: center;">TEST REPORT</h3> <h4 style="text-align: center;">Initial Efficiency / Resistance</h4>
--	--

Filter Description	
Manufacturer	Fibrix
Filter Model	125UWMNOTG125-10
Part Number	N A
Generic Filter Type	Pleated
Nominal Dimensions (H x W x D)	24" x 24" x 1"
Pocket / Pleat Quantity	Flat
Media Type	Polyester
Est. Gross Media Area	4 Ft ²
Adhesive Type	Dry Tack



Test Conditions			
Loading Dust Type	NA	Test Air Temp (degrees F.)	74
Barometric Pressure (In. Hg.)	29.66	Relative Humidity (%)	45

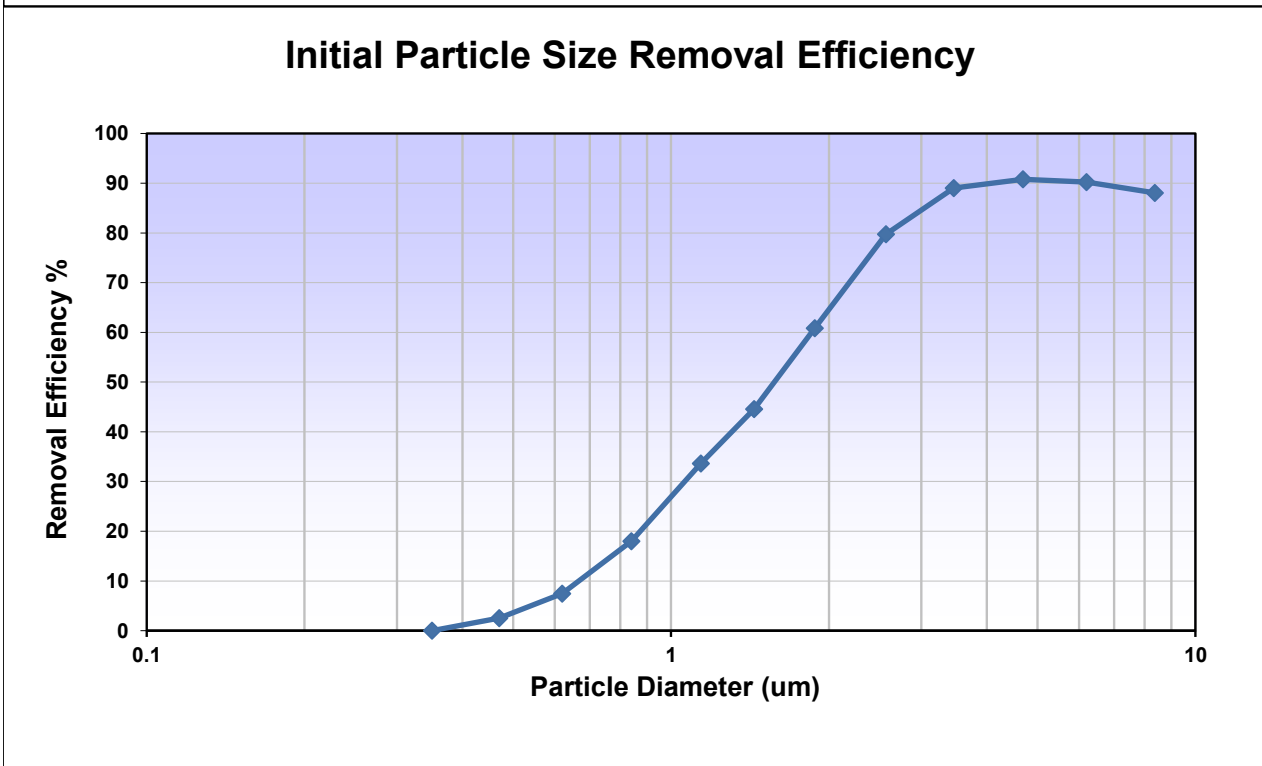
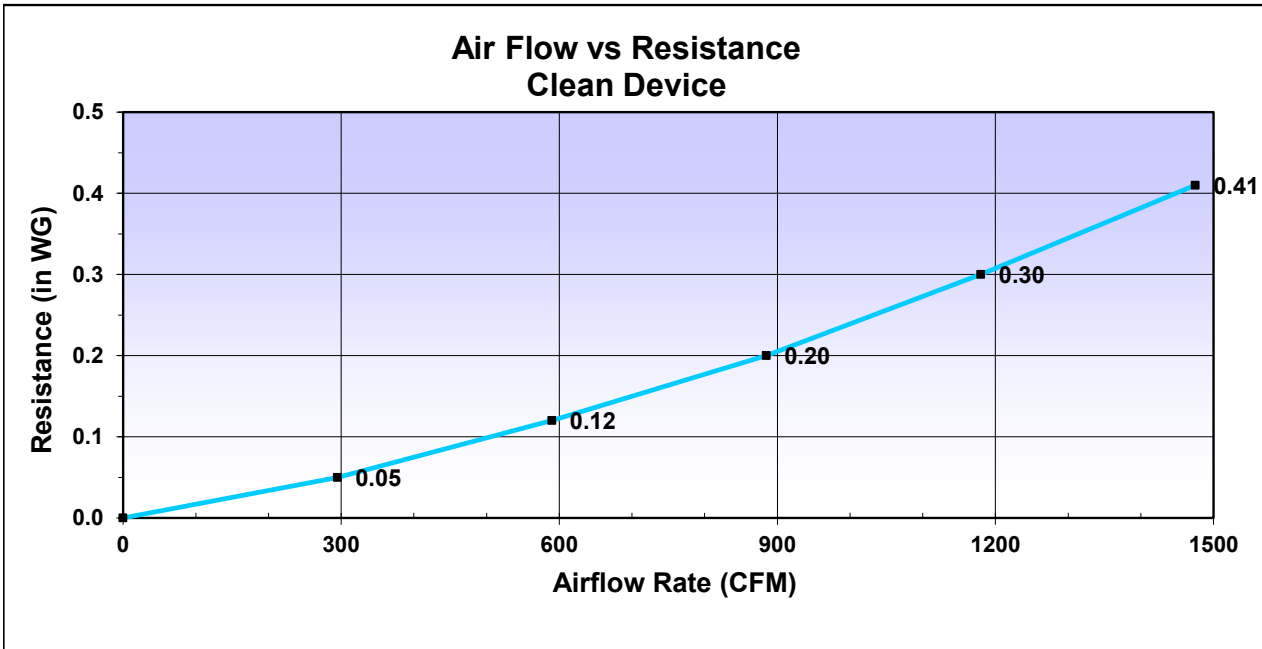
Test Results	
Airflow Rate (CFM)	1180
Nominal Face Velocity (fpm)	295
Initial Resistance (in WG)	0.30
E1 (%) Initial Efficiency 0.30 - 1.0 um	7
E2 (%) Initial Efficiency 1.0 - 3.0 um	55
E3 (%) Initial Efficiency 3.0 - 10.0 um	90
Estimated * Minimum Efficiency Reporting Value (MERV) * If initial data is minimum	MERV 10 @ 1180 CFM

Comments Tested For: Fibrix

Test Performed by: RAS Approved By:  Page 1 of 3

Important Note: Please be advised that the ASHRAE committee SSPC 52.2, in March 2016, has published "addendum e" relative to the 52.2-2012 test protocol. This addendum restricts the use of the acronym "MERV" as only applicable to a test report that has been completed using the "entire procedure prescribed by the standard". This report is a modified version of the procedure and therefore, subject to that ruling. In the best interest of our customers, Blue Heaven Technologies has elected to delay this action until further assessment can be made at committee level. Where applicable, the qualified use of the term "MERV" will continue to be part of our reported data.

Test No. 17-607-1A
Date: 23-Oct-17



Test No. 17-607-1A
 Date: 23-Oct-17

Data - Initial Resistance

Airflow (CFM)	Resistance (in WG)
0	0.00
295	0.05
590	0.12
885	0.20
1180	0.30
1475	0.41

Data - Particle Removal Efficiency

Particle Size Range (um)	Geometric Mean Diam (um)	Initial Particle Removal Efficiency (%)
0.30 - 0.40	0.35	0.0
0.40 - 0.55	0.47	2.6
0.55 - 0.70	0.62	7.4
0.70 - 1.00	0.84	18.0
1.00 - 1.30	1.14	33.6
1.30 - 1.60	1.44	44.6
1.60 - 2.20	1.88	60.9
2.20 - 3.00	2.57	79.8
3.00 - 4.00	3.46	89.0
4.00 - 5.50	4.69	90.8
5.50 - 7.00	6.20	90.2
7.00 - 10.00	8.37	88.1

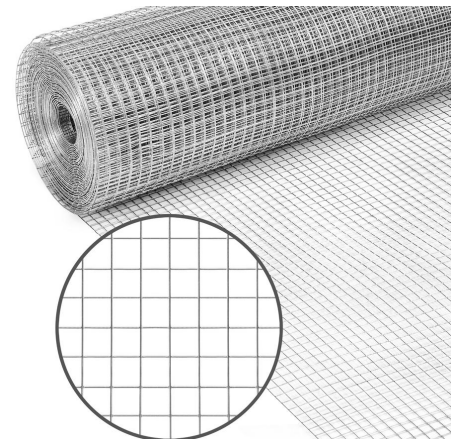


Tuck-In Frame



Construction

- Channel and mesh made with 100% galvanized steel
- 26-gauge channels
- Spring loaded 16-gauge welded wire mesh
- Durable construction
- Customized up to 12-feet
- Press-in frames are made in 1" or 2"
- Larger frames are supported by center channel



Benefits

- 100% galvanized construction ensures no rust
- Ideal in high CFM air handlers
- Loaded to ensure a snug fit for all media types
- Slide easily within the filter track
- Eliminate air bypass, allowing the removal of spacers



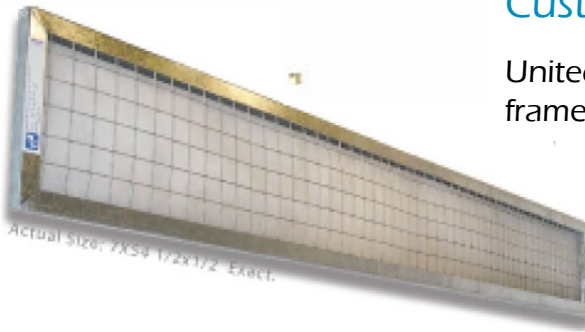
United Air Filter has again made retro-fitting a simple task. By using Tuck-In Frames, you are being insured that you'll have a weather resistant customized frame. Having manufactured frames since 1968, our Tuck-In Frames have been a proven quality product unmatched by the competition.

In high velocity HVAC units, the Tuck-In Frame will give the filter media a steady backing. This is also a benefit in humid climates. Paper or other materials will break away possibly causing a filter blowout.



Custom Frame Sizes

United Air Filter makes a variety of standard sized as well as Custom frame sizes to suit your HVAC unit needs



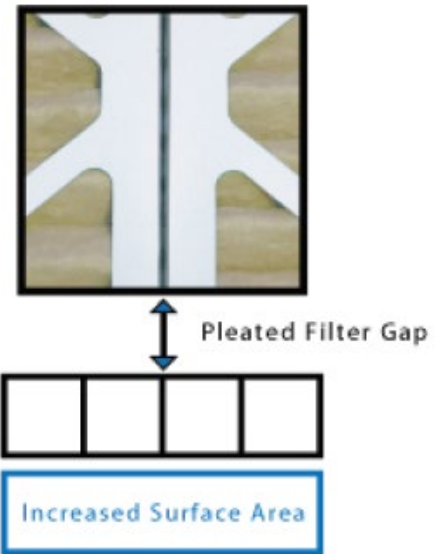
Tuck-In Frames will allow you to make up to a 12-foot length track. While the depth of the frame may be half an inch, one inch, or two inches deep. Frames can be made in nominal and exact sizes.

Pleats vs. Frames

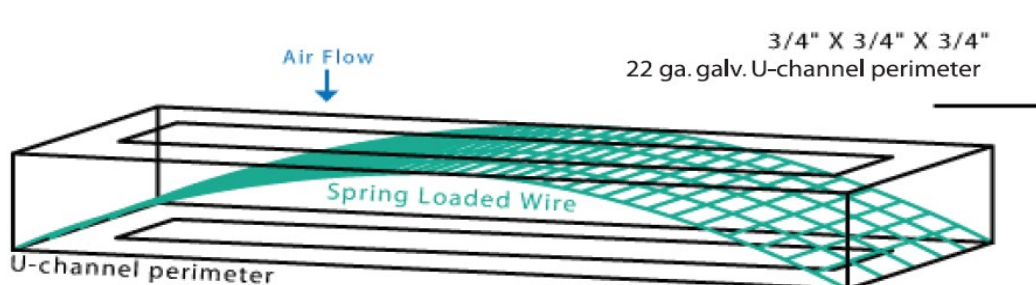
When pleated filters line up in a series of four 20x20x2, there will be three interior gaps (see image) and a gap at each filter end.

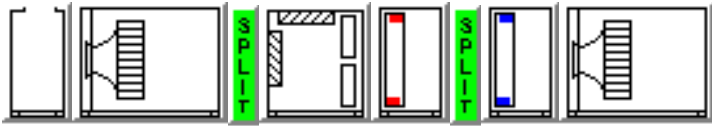
Tuck-In Frames will eliminate this problem by having only 1 filter frame per track.

By having one 20x80x2 frame, rather than 4 20x20x2 pleats, gaps are non-existent. The ends of the frames are gasket sealed to prevent bypass.



Frame Diagram





Unit Parameters

Aero Indoor Air Handler

39MN Size 21W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Top

Door Left Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan A PDLA01245

Direct Drive Fan

1336 fanRPM Class II

Full Open Discharge

Spring Fan Isolation

Motor Shaft Grounding

Motor

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 213T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 4.6

Efficiency - 89.5%

Door Left Side

Filter Mixing Box

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter

Field Supplied 2in. MERV 8 Throwaway Filter

Construction Filters
Qty (6) 20in. x 25in.

Door Left Side
Minihelic Differential Pressure Gage 0-2" w.c. Left Side

Hot Water Coil and Plenum

Shipping Split After
304 Stainless Steel Drain Pan Left Side
Hot Water 21.44 sq.ft 1 Row 8 FPI Half Circuit
Coil Connection Left Side
1/2 in. Tube Diameter
Fin Thickness: 0.0060
AL fins Galv. Casing
Steel Header
No Coating
Door Left Side

Chilled Water Coil and Plenum

304 Stainless Steel Drain Pan Left Side
Chilled Water 21.44 sq.ft 10 Row 11 FPI Double Circuit
Coil Connection Left Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Left Side

Draw-Thru Supply Fan

Rear Inlet
Fan Sled
Plenum Fan B PDLA01270

Direct Drive Fan
1474 fanRPM Class II

Field Supplied Discharge
Spring Fan Isolation
Motor Shaft Grounding

Motor

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 256T

Motor Shaft Diameter (in.) - 1.625

Voltage Selected - 460/3/60

Full Load Amps - 14.1

Efficiency - 91.0%

Door Left Side

Configuration Notes

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-1

Preheat coil configurations can cause freezstat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Weights and Dimensions

(LxWxH in ft in) 19' 8" x 6' 8" x 5' 0" **

Operating 5315 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 First 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 21 - 30

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.
All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell

Tag: AHU-1

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
10 / 11 / DB
.0042 in
Sine Wave
Large
21.44 sqft
457.1 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow	9800	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	9450	SCFM
Total Cooling Capacity	458.22	MBH
Sensible Cooling Capacity	305.05	MBH
Fluid Flow Rate	74.2	gpm
Fluid Pressure Drop	3.3	ft wg

Fluid Velocity _____ 2.0 ft/s
 Entering Fluid Temperature _____ 44.00 F
 Leaving Fluid Temperature _____ 56.32 F
 Fluid Temperature Rise _____ 12.3 F
 Entering Air Dry Bulb _____ 80.00 F
 Entering Air Wet Bulb _____ 67.00 F
 Entering Air Enthalpy _____ 31.50 BTU/lb
 Leaving Air Dry Bulb _____ 50.64 F
 Leaving Air Wet Bulb _____ 50.64 F
 Leaving Air Enthalpy _____ 20.7 BTU/lb
 Air Friction _____ 1.15 in wg
 Brine _____ FW
 Brine Concentration _____ 0 %
 Fouling Factor _____ 0.0 (hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell

Tag: AHU-1

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 8 / HF
.0060 in
Sine Wave
Large
21.44 sqft
457.1 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
Actual Airflow **9800** CFM
 Site Altitude **0** ft
 Standard Airflow (adj. to std. dry atmosphere) **9893** SCFM
 Heating Capacity **174.36** MBH
Fluid Flow Rate **8.4** gpm
Fluid Pressure Drop **0.2** ft wg
 Fluid Velocity **0.7** ft/s
 Entering Fluid Temperature **160.00** F
 Leaving Fluid Temperature **117.60** F
 Fluid Temperature Drop **42.4** F
 Entering Air Temperature **65.00** F
 Leaving Air Temperature **81.12** F
 Air Friction **0.16** in wg
 Brine **FW**
 Brine Concentration **0** %
 Fouling Factor **0.0** (hr-sqft-F)/BTU



Actual Airflow	9800	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	9893	SCFM
Heating Capacity	174.36	MBH
Fluid Flow Rate	8.4	gpm
Fluid Pressure Drop	0.2	ft wg
Fluid Velocity	0.7	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	117.60	F
Fluid Temperature Drop	42.4	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	81.12	F
Air Friction	0.16	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-1

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	90	85	82
125 Hz _____	90	88	85
250 Hz _____	92	92	88
500 Hz _____	85	84	80
1000 Hz _____	83	75	72
2000 Hz _____	82	76	72
4000 Hz _____	80	74	69
8000 Hz _____	77	70	66

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	64	59	56
125 Hz _____	73	71	69
250 Hz _____	84	83	79
500 Hz _____	82	81	77
1000 Hz _____	83	75	72
2000 Hz _____	83	77	73
4000 Hz _____	81	75	70
8000 Hz _____	76	69	65

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	86	84	81
125 Hz _____	83	84	79
250 Hz _____	87	90	84
500 Hz _____	80	82	77
1000 Hz _____	79	73	68
2000 Hz _____	77	73	67
4000 Hz _____	74	71	65
8000 Hz _____	72	68	63

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	60	58	54
125 Hz _____	67	67	63
250 Hz _____	78	81	76
500 Hz _____	77	79	74
1000 Hz _____	79	73	68
2000 Hz _____	78	74	68
4000 Hz _____	75	72	66
8000 Hz _____	71	67	62

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

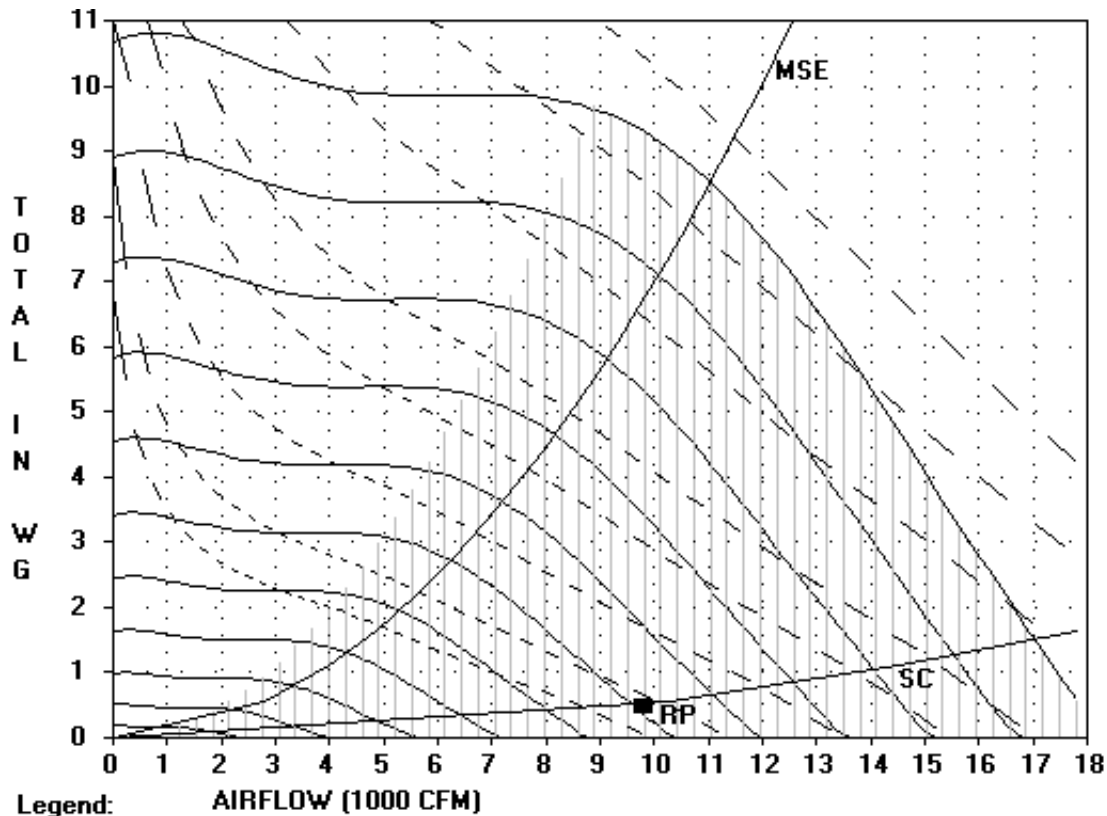
Sound contributed by Supply and Return Fans

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-1

Fan Model	39M2101HPDL
Unit Size	21W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	24.5
Fan Class	II
Static Efficiency (%)	28
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	9800
Site Altitude, , ft	0
Total Upstream Static Losses, in wg	0.50
Number of Fans	1
Calculated Fan RPM / Motor RPM	1336 / 1200
Class II Max. RPM	2269
Fan BHP	2.7
Fan Electrical Power, kW	2.3

Unit is outside of the scope of AHRI Standard 430/431.



Legend: AIRFLOW (1000 CFM)

\ - RPM \ - BHP MSE - Max. Static Eff. SC - System Curve RP - Rated Point

RPM = 1336 BHP = 2.7 CLASS II MAX. RPM = 2269

RPM's (x 100, L to R): 3. 5. 7. 9. 11. 13. 15. 17. 19. 21. 23.

BHP's (L to R): 2 3 5 7.5 10 15 20 25

Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-1

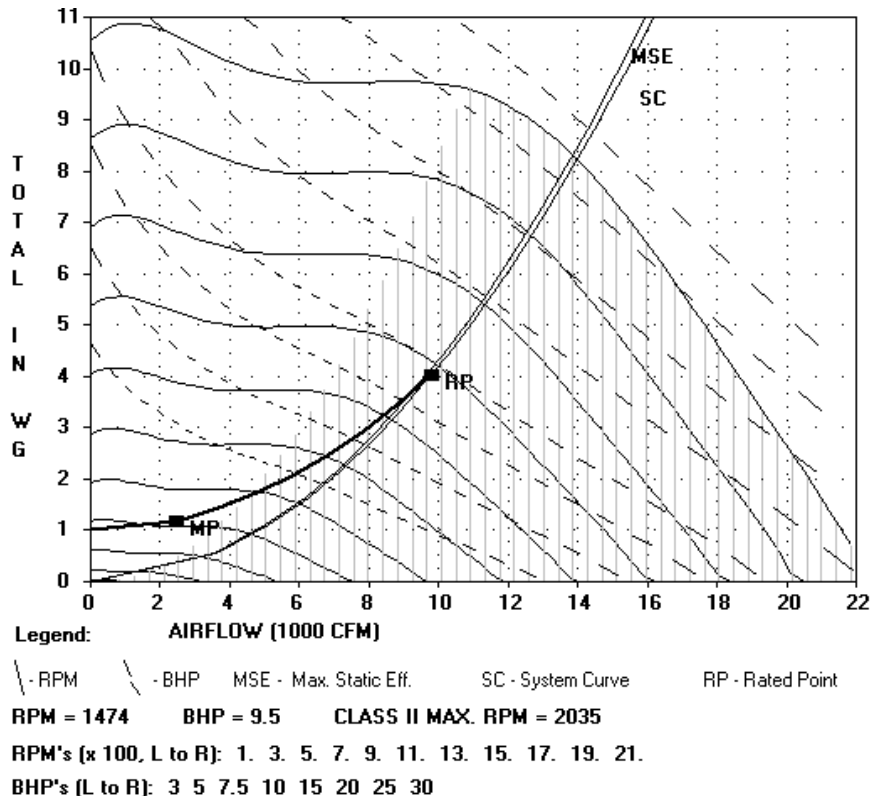
Fan Model	39M2101HPDL-U
Unit Size	21W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	27
Fan Class	II
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	9800
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	2.25
Cooling Coil Static, in wg	1.15
Heating Coil Static, in wg	0.16
Total Accessory Static, in wg	0.48
Total Static Pressure, in wg	4.04
Calculated Fan RPM / Motor RPM	1474 / 1200
Class II Max. RPM	2035
Static Efficiency (%)	66
Number of Fans	1
Fan BHP	9.5
Fan Electrical Power, kW	7.7



Accessories:

- (1) Flat Throwaway (2 in.), Dirty [0.37]
- (1) Mixing or Exhaust Box [0.11]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahridirectory.org

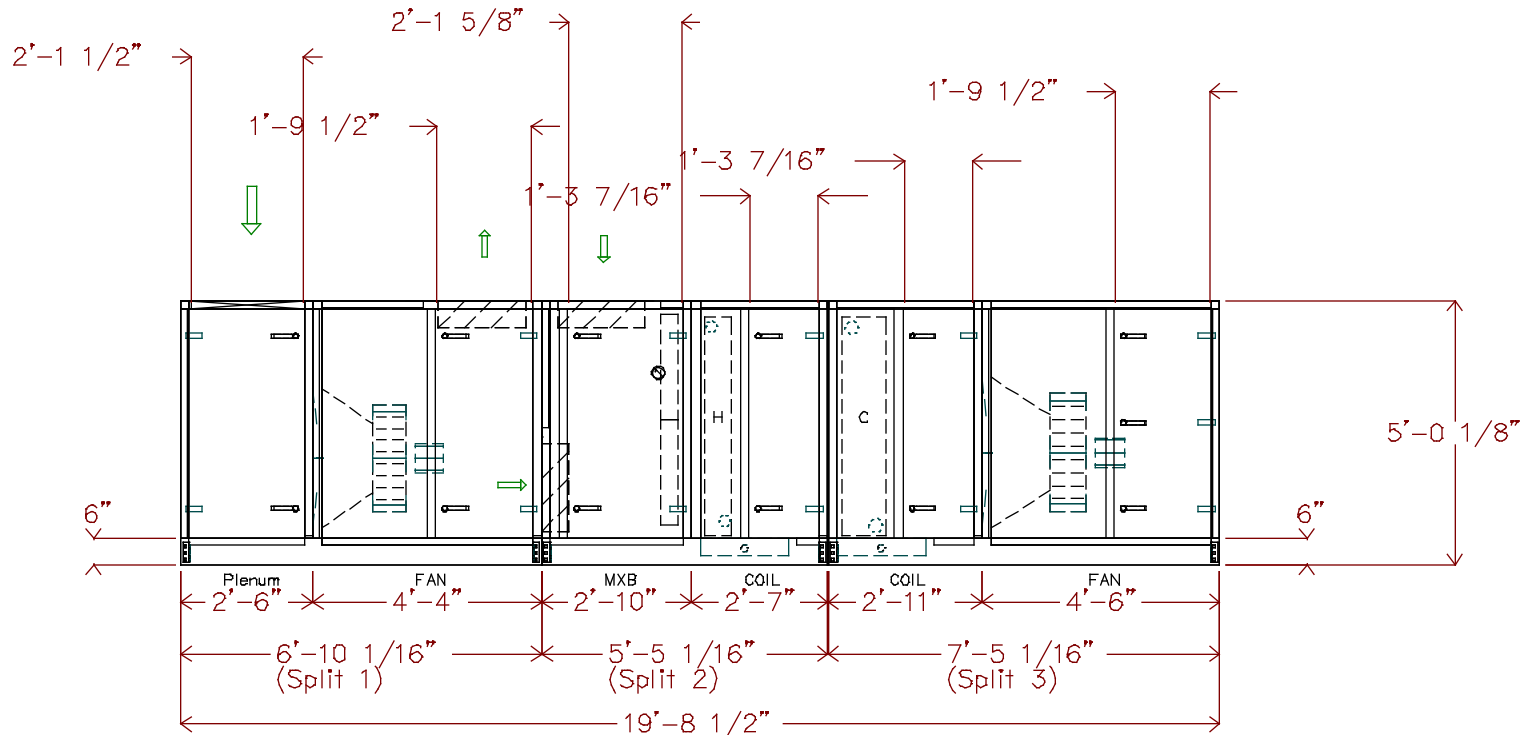


Unit width: 6'-8 11/16" (plus lifting lugs)
 Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (6) 20in. x 25in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan
 10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 Operating weight: 5316.0 lbs.
 Upstream Corner Weight (each): 1200.0 lbs.
 Downstream Corner Weight (each): 1458.0 lbs.



Split	Airway Length	Weight (lbs.)
(Split 1)	6'-10 1/16"	1439
(Split 2)	5'-5 1/16"	1289
(Split 3)	7'-5 1/16"	2588



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
 CMS Hidden Valley, Grier, Newell: AHU-1
 Assembly Drawing

REVISION
Side View

Unit viewed from right side of side elevation view.

Unit length: 19'-8 1/2"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5316.0 lbs.

Upstream Corner Weight (each): 1200.0 lbs.

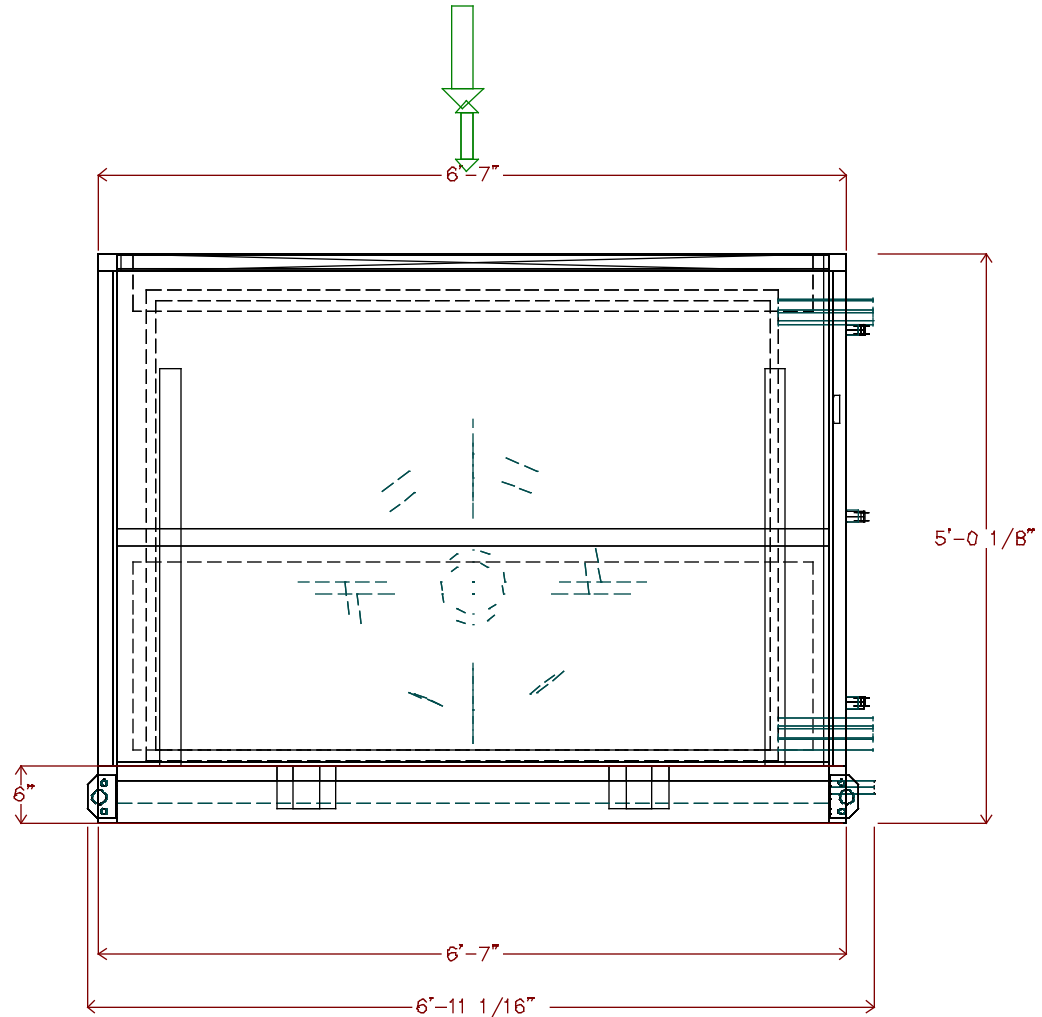
Downstream Corner Weight (each): 1458.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-1
Assembly Drawing

REVISION
End View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2in. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5316.0 lbs.

Upstream Corner Weight (each): 1200.0 lbs.

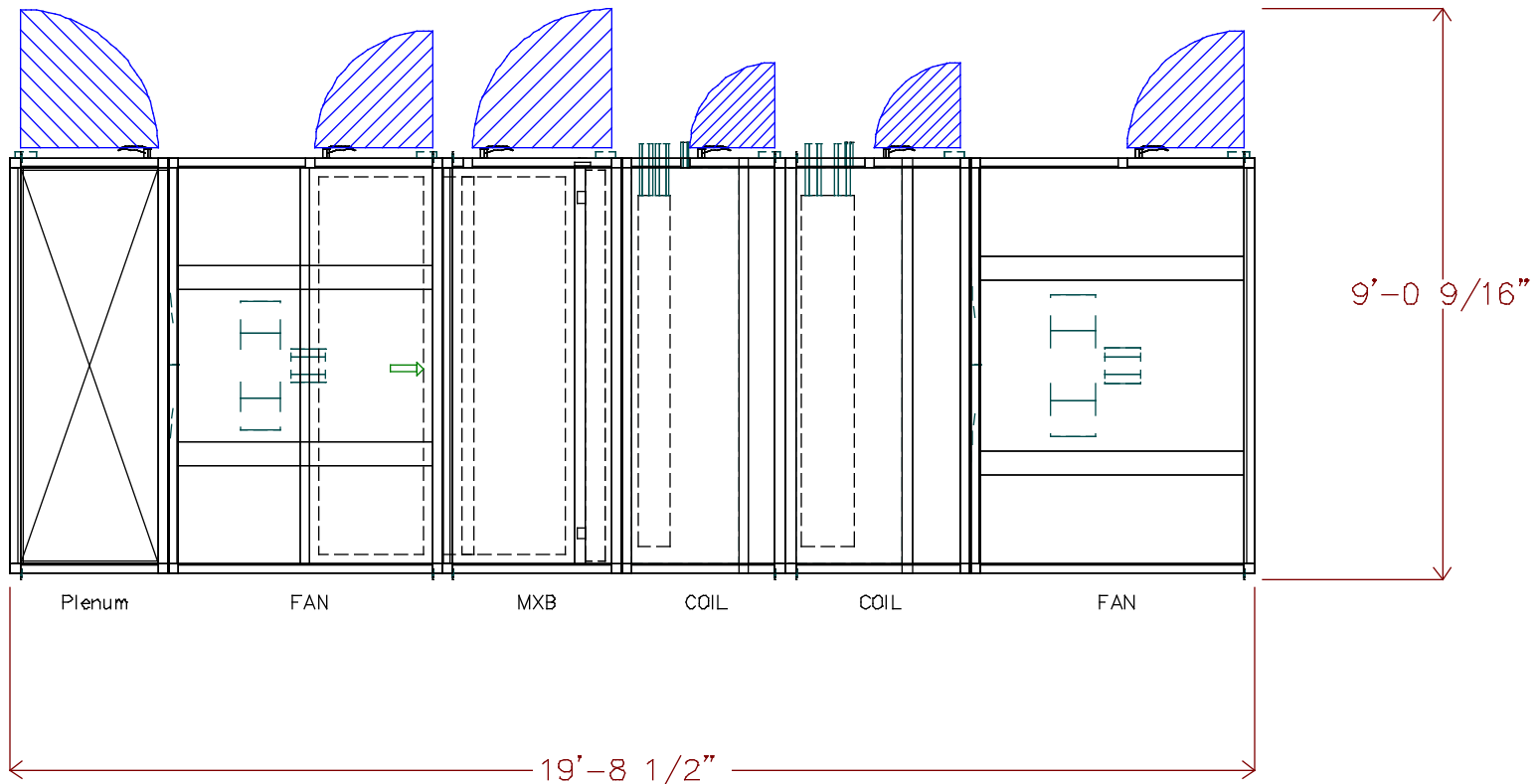
Downstream Corner Weight (each): 1458.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-1
Assembly Drawing

REVISION
Top View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2ln. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5316.0 lbs.

Upstream Corner Weight (each): 1200.0 lbs.

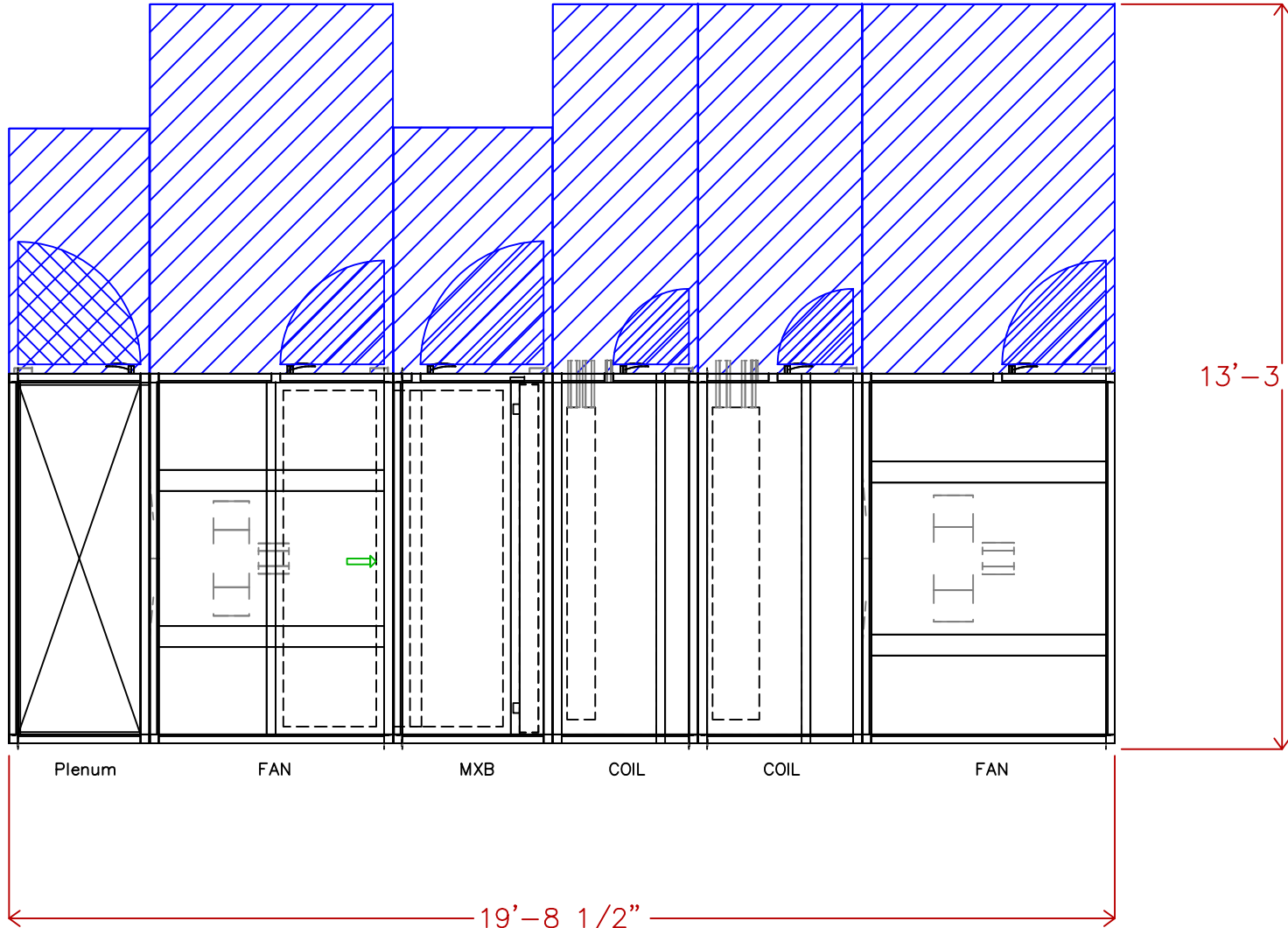
Downstream Corner Weight (each): 1458.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



13'-3 1/4"

19'-8 1/2"

DATE
4/27/2022

AHUBuilder
v6.69I

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-1
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

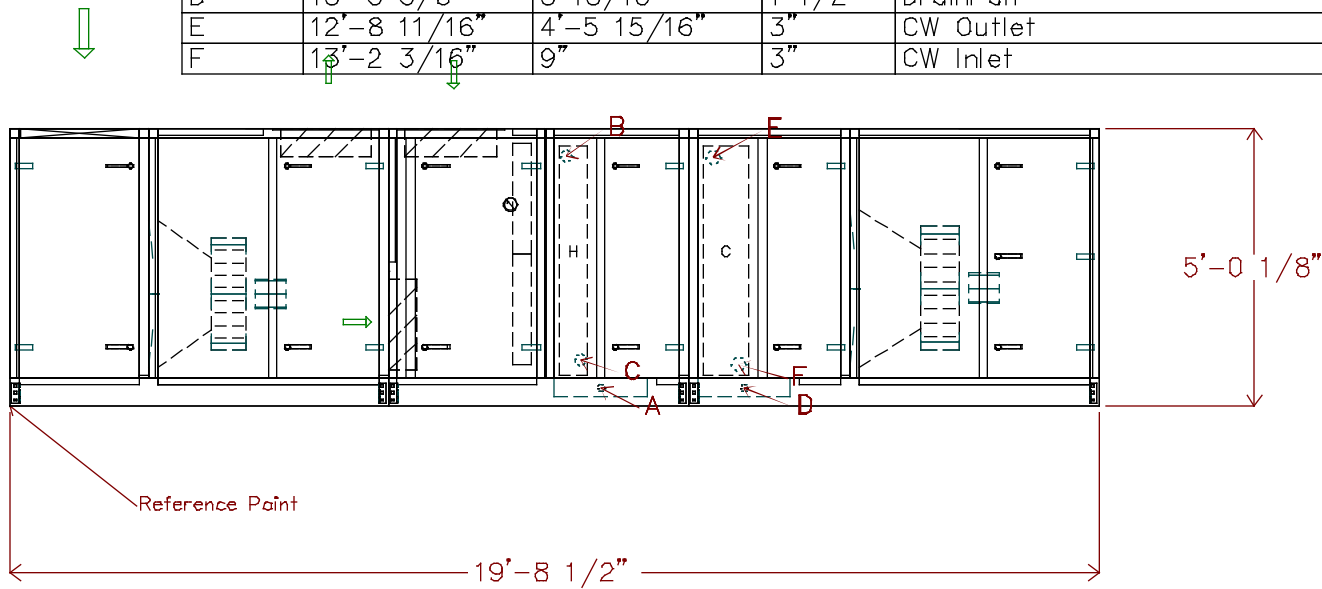


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	10'-8 5/16"	3 13/16"	1 1/2"	DrainPan
B	10'-0 3/4"	4'-6 3/16"	2 1/2"	HW Outlet
C	10'-3 15/16"	9 15/16"	2 1/2"	HW Inlet
D	13'-3 3/8"	3 13/16"	1 1/2"	DrainPan
E	12'-8 11/16"	4'-5 15/16"	3"	CW Outlet
F	13'-2 3/16"	9"	3"	CW Inlet



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
 CMS Hidden Valley, Grier, Newell: AHU-1
 Assembly Drawing

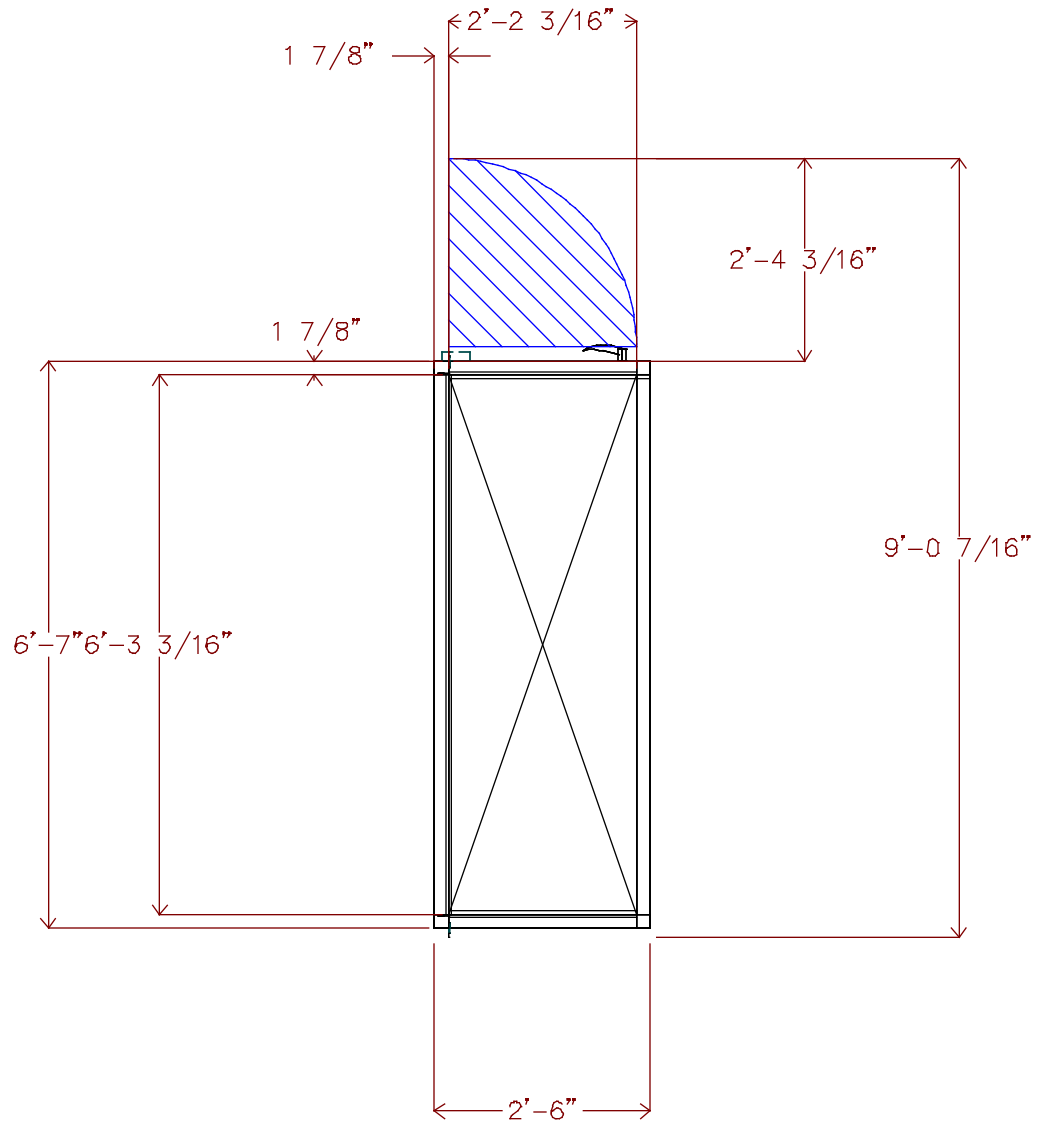
REVISION
Side View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

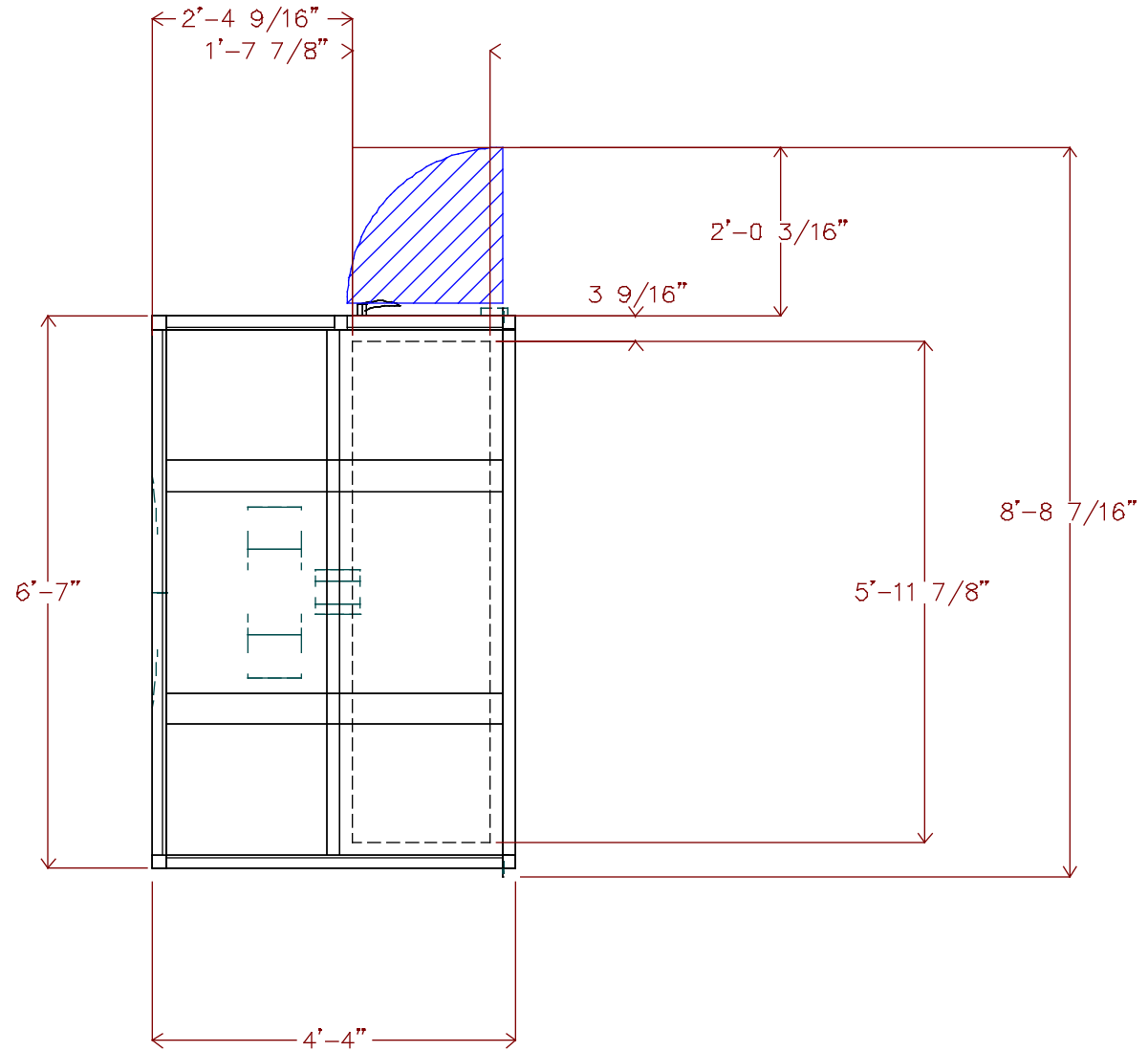
AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-1
Turning Plenum

REVISION
Top View

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

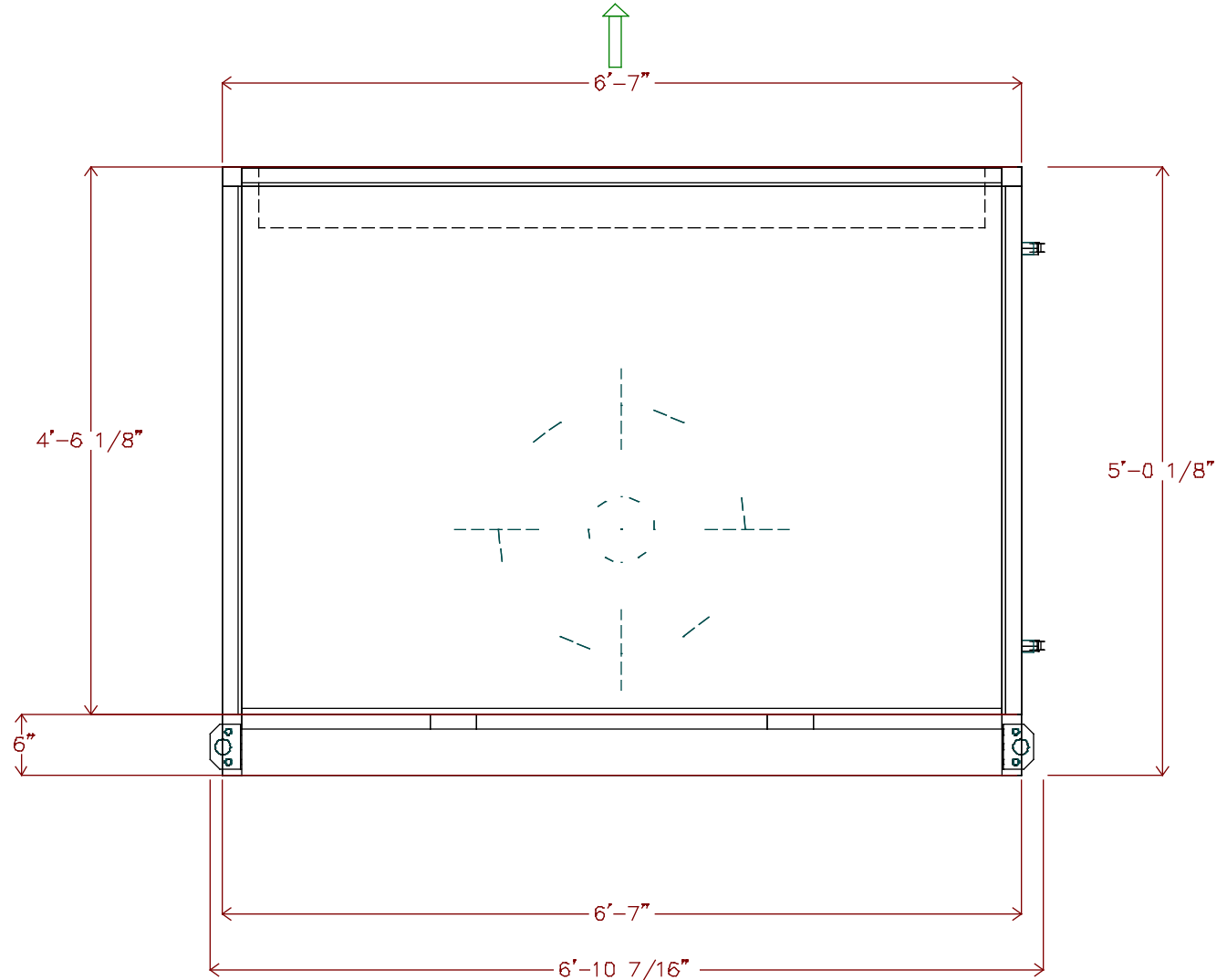
39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-1
Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

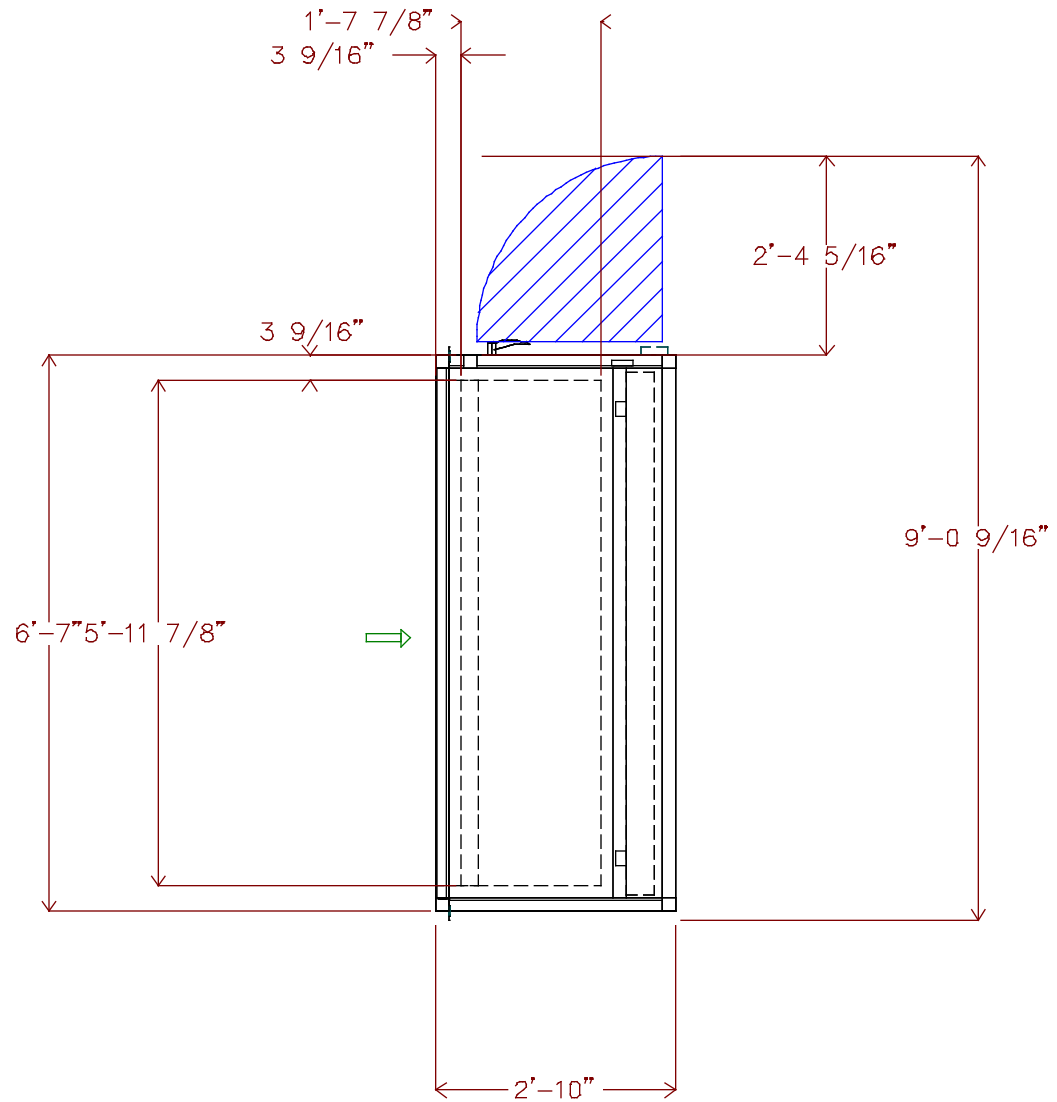
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-1
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (6) 20in. x 25in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
 5/27/2022

AHUBuilder
 v6.69m

39M Central Station Air-Handler, Size 21W
 CMS Hidden Valley, Grier, Newell: AHU-1
 Filter Mixing Box

REVISION
 Top View

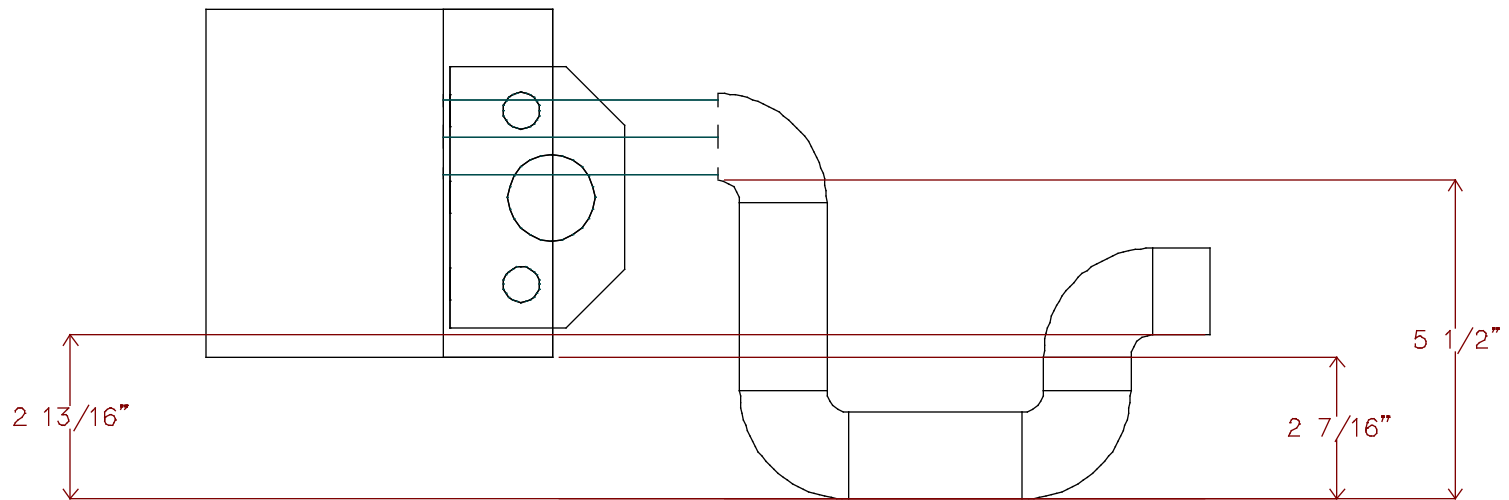


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-1
Condensate Trap Dimensions

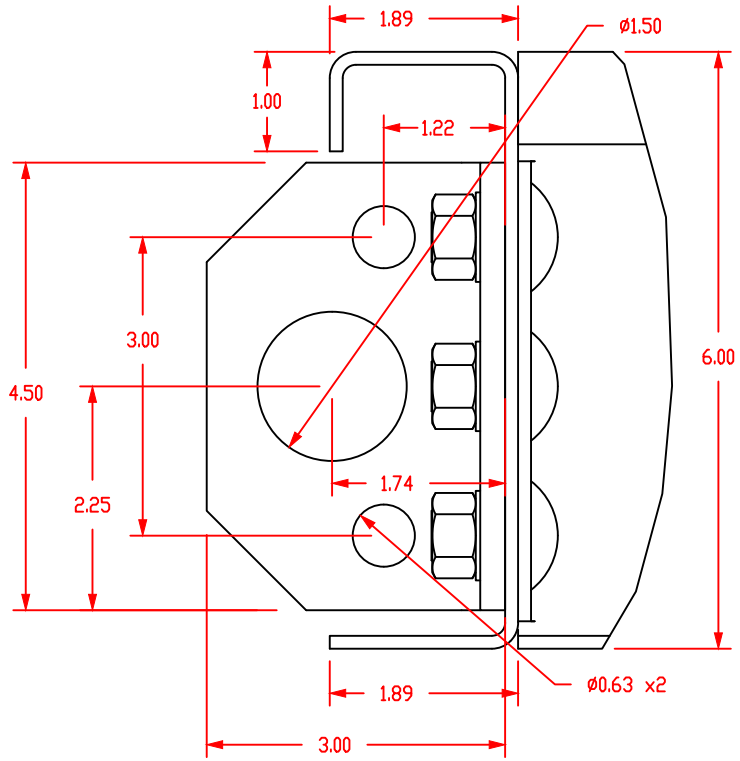
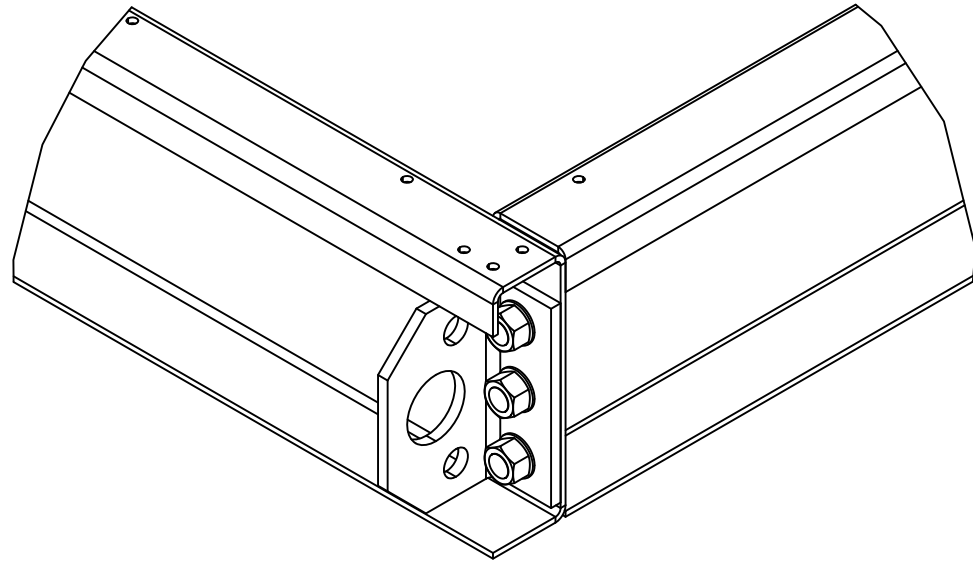
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M

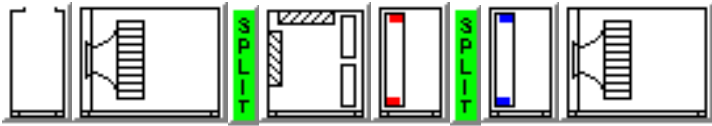


DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION



Unit Parameters

Aero Indoor Air Handler

39MN Size 21W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Top

Door Right Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan A PDLA01245

Direct Drive Fan

1248 fanRPM Class II

Full Open Discharge

Spring Fan Isolation

Motor Shaft Grounding

Motor

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 213T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 4.6

Efficiency - 89.5%

Door Right Side

Filter Mixing Box

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter

Field Supplied 2in. MERV 8 Throwaway Filter

Construction Filters
Qty (6) 20in. x 25in.

Door Right Side
Minihelic Differential Pressure Gage 0-2" w.c. Right Side

Hot Water Coil and Plenum

Shipping Split After
304 Stainless Steel Drain Pan Right Side
Hot Water 21.44 sq.ft 1 Row 8 FPI Half Circuit
Coil Connection Right Side
1/2 in. Tube Diameter
Fin Thickness: 0.0060
AL fins Galv. Casing
Steel Header
No Coating
Door Right Side

Chilled Water Coil and Plenum

304 Stainless Steel Drain Pan Right Side
Chilled Water 21.44 sq.ft 8 Row 11 FPI Full Circuit
Coil Connection Right Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Right Side

Draw-Thru Supply Fan

Rear Inlet

Fan Sled
Plenum Fan A PDLA01245
Direct Drive Fan
1664 fanRPM Class II

Field Supplied Discharge
Spring Fan Isolation
Motor Shaft Grounding

Motor
10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 256T

Motor Shaft Diameter (in.) - 1.625

Voltage Selected - 460/3/60

Full Load Amps - 14.1

Efficiency - 91.0%

Door Right Side

Configuration Notes

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-2

Preheat coil configurations can cause freezstat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Weights and Dimensions

(LxWxH in ft in) 19' 4" x 6' 8" x 5' 0" **

Operating 5059 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 Each Additional 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 21 - 30

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.
All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-2

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
8 / 11 / FL
.0042 in
Sine Wave
Large
21.44 sqft
424.4 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
Actual Airflow **9100** CFM
 Site Altitude **0** ft
 Standard Airflow (adj. to std. dry atmosphere) **8775** SCFM
 Total Cooling Capacity **422.91** MBH
 Sensible Cooling Capacity **282.08** MBH
Fluid Flow Rate **68.8** gpm
Fluid Pressure Drop **8.6** ft wg
 Fluid Velocity **3.1** ft/s
 Entering Fluid Temperature **44.00** F
 Leaving Fluid Temperature **56.25** F
 Fluid Temperature Rise **12.3** F
 Entering Air Dry Bulb **80.00** F
 Entering Air Wet Bulb **67.00** F
 Entering Air Enthalpy **31.50** BTU/lb
 Leaving Air Dry Bulb **50.76** F
 Leaving Air Wet Bulb **50.75** F
 Leaving Air Enthalpy **20.7** BTU/lb
 Air Friction **0.85** in wg
 Brine **FW**
 Brine Concentration **0** %
 Fouling Factor **0.0** (hr-sqft-F)/BTU



Actual Airflow	9100	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	8775	SCFM
Total Cooling Capacity	422.91	MBH
Sensible Cooling Capacity	282.08	MBH
Fluid Flow Rate	68.8	gpm
Fluid Pressure Drop	8.6	ft wg
Fluid Velocity	3.1	ft/s
Entering Fluid Temperature	44.00	F
Leaving Fluid Temperature	56.25	F
Fluid Temperature Rise	12.3	F
Entering Air Dry Bulb	80.00	F
Entering Air Wet Bulb	67.00	F
Entering Air Enthalpy	31.50	BTU/lb
Leaving Air Dry Bulb	50.76	F
Leaving Air Wet Bulb	50.75	F
Leaving Air Enthalpy	20.7	BTU/lb
Air Friction	0.85	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell

Tag: AHU-2

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH

1

1 / 8 / HF

.0060 in

Sine Wave

Large

21.44 sqft

424.4 fpm

Al-Galv.

0.5 in

1.25 x 0.781 in

0.016 in



Actual Airflow **9100** CFM

Site Altitude **0** ft

Standard Airflow (adj. to std. dry atmosphere) **9187** SCFM

Heating Capacity **152.73** MBH

Fluid Flow Rate **6.7** gpm

Fluid Pressure Drop **0.1** ft wg

Fluid Velocity **0.6** ft/s

Entering Fluid Temperature **160.00** F

Leaving Fluid Temperature **113.43** F

Fluid Temperature Drop **46.6** F

Entering Air Temperature **65.00** F

Leaving Air Temperature **80.20** F

Air Friction **0.14** in wg

Brine **FW**

Brine Concentration **0** %

Fouling Factor **0.0** (hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

Stf -- Tube spacing across coil face

Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
Tag: AHU-2

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	90	84	81
125 Hz _____	89	88	85
250 Hz _____	94	91	87
500 Hz _____	85	84	80
1000 Hz _____	83	75	72
2000 Hz _____	82	75	71
4000 Hz _____	79	73	69
8000 Hz _____	77	70	66

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	63	58	55
125 Hz _____	73	72	69
250 Hz _____	85	82	79
500 Hz _____	82	80	77
1000 Hz _____	83	75	72
2000 Hz _____	83	76	72
4000 Hz _____	80	74	70
8000 Hz _____	76	69	65

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	84	83	79
125 Hz _____	83	84	79
250 Hz _____	84	87	82
500 Hz _____	78	80	75
1000 Hz _____	77	71	66
2000 Hz _____	75	71	66
4000 Hz _____	72	69	63
8000 Hz _____	70	67	61

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	58	56	53
125 Hz _____	67	68	63
250 Hz _____	76	79	73
500 Hz _____	75	77	72
1000 Hz _____	77	71	66
2000 Hz _____	77	73	67
4000 Hz _____	73	70	64
8000 Hz _____	69	65	60

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

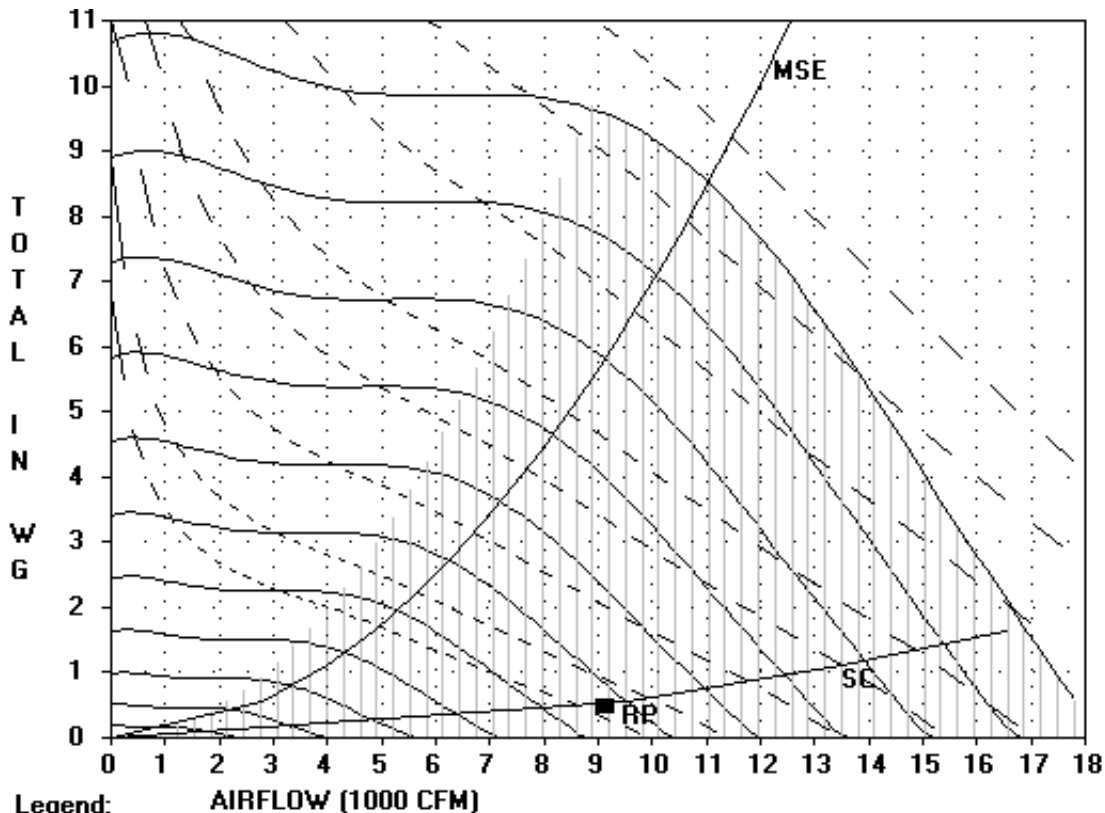
Sound contributed by Supply and Return Fans

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-2

Fan Model	39M2101HPDL
Unit Size	21W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	24.5
Fan Class	II
Static Efficiency (%)	31
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	9100
Site Altitude, , ft	0
Total Upstream Static Losses, in wg	0.50
Number of Fans	1
Calculated Fan RPM / Motor RPM	1248 / 1200
Class II Max. RPM	2269
Fan BHP	2.3
Fan Electrical Power, kW	1.9

Unit is outside of the scope of AHRI Standard 430/431.



Legend: AIRFLOW (1000 CFM)

\ - RPM \ - BHP MSE - Max. Static Eff. SC - System Curve RP - Rated Point

RPM = 1248 BHP = 2.3 CLASS II MAX. RPM = 2269

RPM's (x 100, L to R): 3. 5. 7. 9. 11. 13. 15. 17. 19. 21. 23.

BHP's (L to R): 2 3 5 7.5 10 15 20 25

Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-2

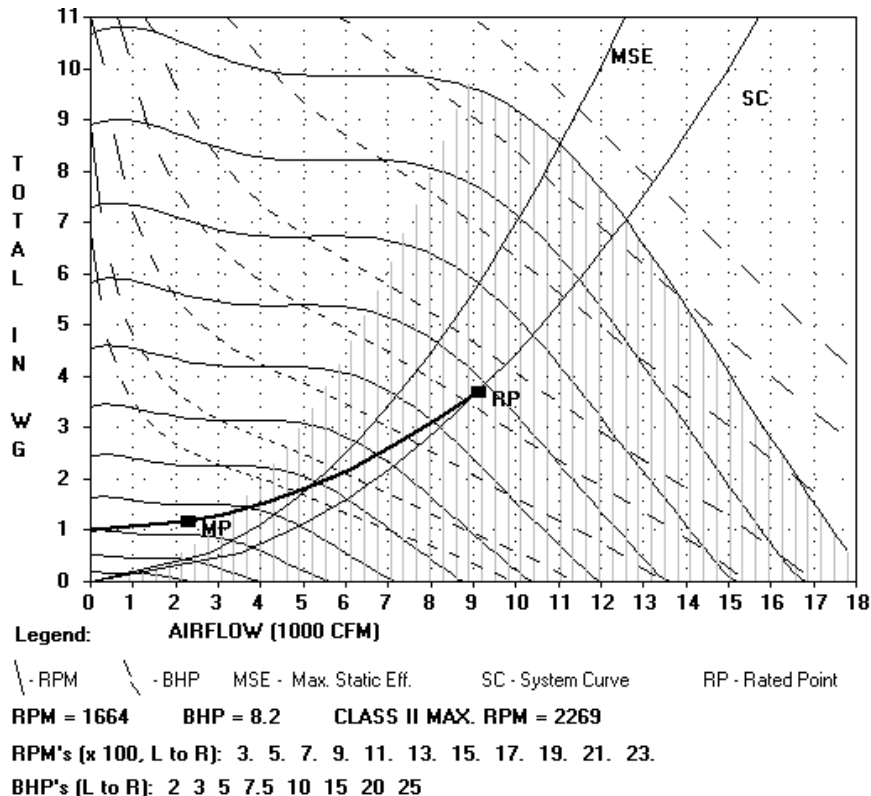
Fan Model	39M2101HPDL-U
Unit Size	21W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	24.5
Fan Class	II
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	9100
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	2.25
Cooling Coil Static, in wg	0.85
Heating Coil Static, in wg	0.14
Total Accessory Static, in wg	0.45
Total Static Pressure, in wg	3.69
Calculated Fan RPM / Motor RPM	1664 / 1200
Class II Max. RPM	2269
Static Efficiency (%)	65
Number of Fans	1
Fan BHP	8.2
Fan Electrical Power, kW	6.7



Accessories:

- (1) Flat Throwaway (2 in.), Dirty [0.36]
- (1) Mixing or Exhaust Box [0.09]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahridirectory.org

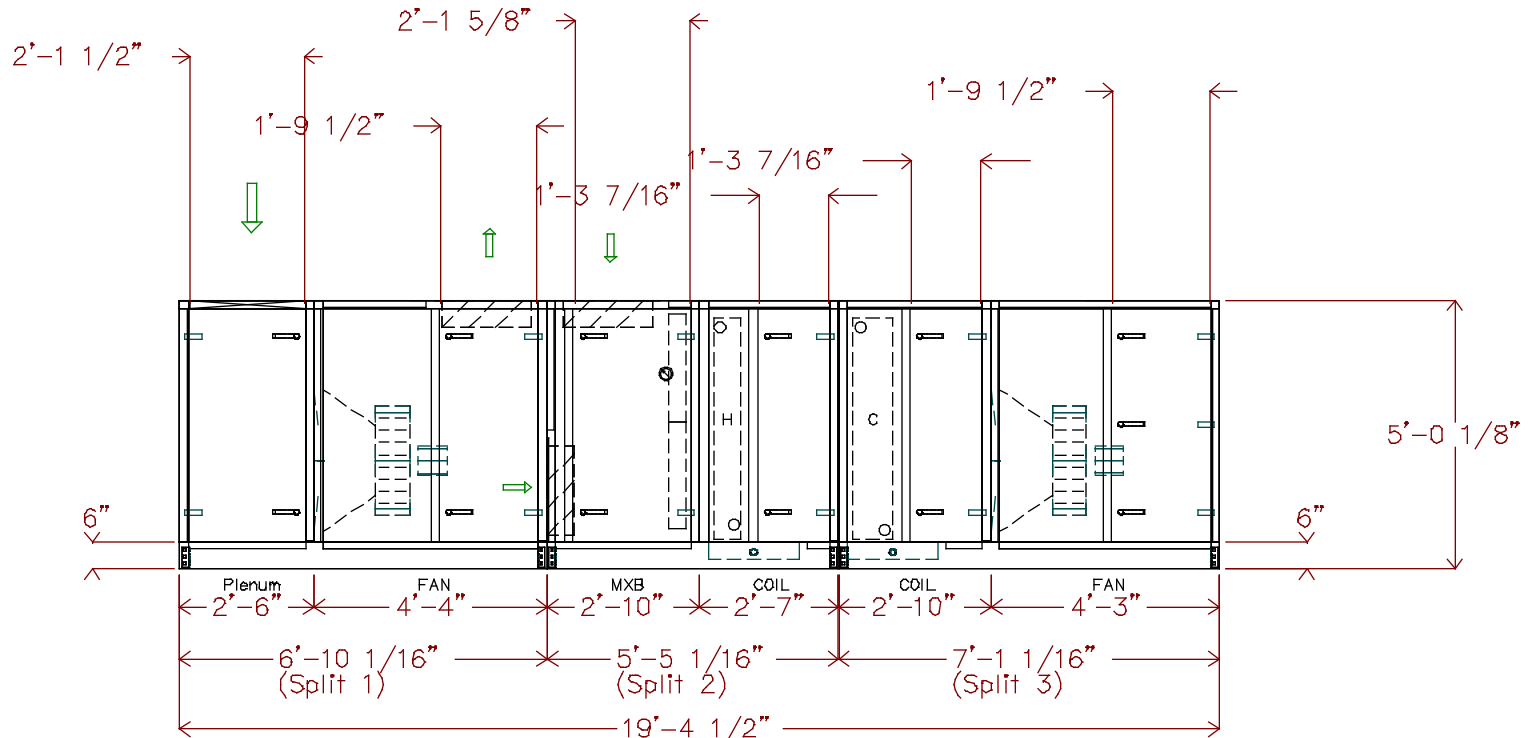


Unit width: 6'-8 11/16" (plus lifting lugs)
 Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (6) 20in. x 25in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 11 FPI Full Circuit (qty. 1)

Draw-Thru Supply Fan
 10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 Operating weight: 5060.0 lbs.
 Upstream Corner Weight (each): 1154.0 lbs.
 Downstream Corner Weight (each): 1376.0 lbs.



Split	Airway Length	Weight (lbs.)
(Split 1)	6'-10 1/16"	1439
(Split 2)	5'-5 1/16"	1289
(Split 3)	7'-1 1/16"	2332



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
 CMS Hidden Valley, Grier, Newell: AHU-2
 Assembly Drawing

REVISION
Side View

Unit viewed from right side of side elevation view.

Unit length: 19'-4 1/2"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 11 FPI Full Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5060.0 lbs.

Upstream Corner Weight (each): 1154.0 lbs.

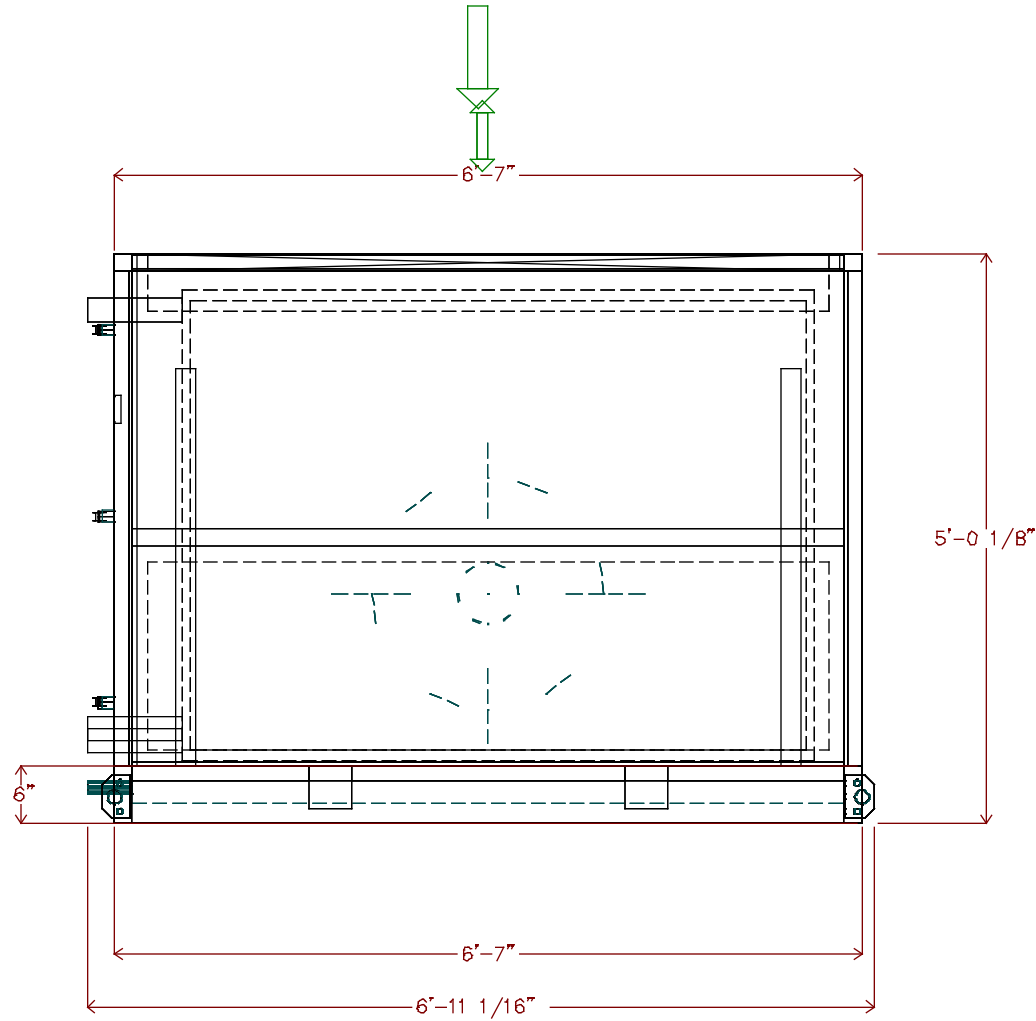
Downstream Corner Weight (each): 1376.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-2
Assembly Drawing

REVISION
End View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 11 FPI Full Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5060.0 lbs.

Upstream Corner Weight (each): 1154.0 lbs.

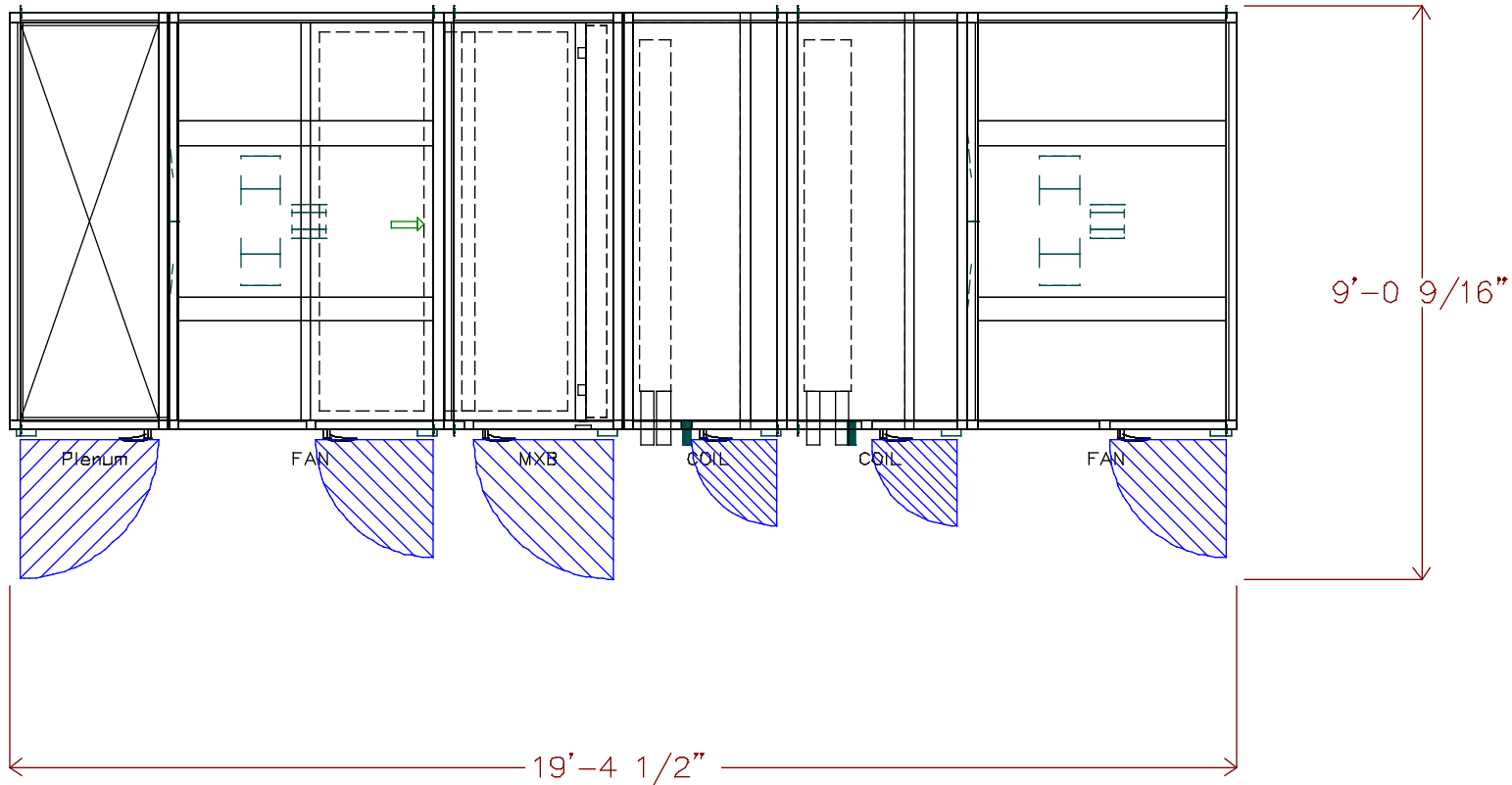
Downstream Corner Weight (each): 1376.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-2
Assembly Drawing

REVISION
Top View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2ln. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 11 FPI Full Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5060.0 lbs.

Upstream Corner Weight (each): 1154.0 lbs.

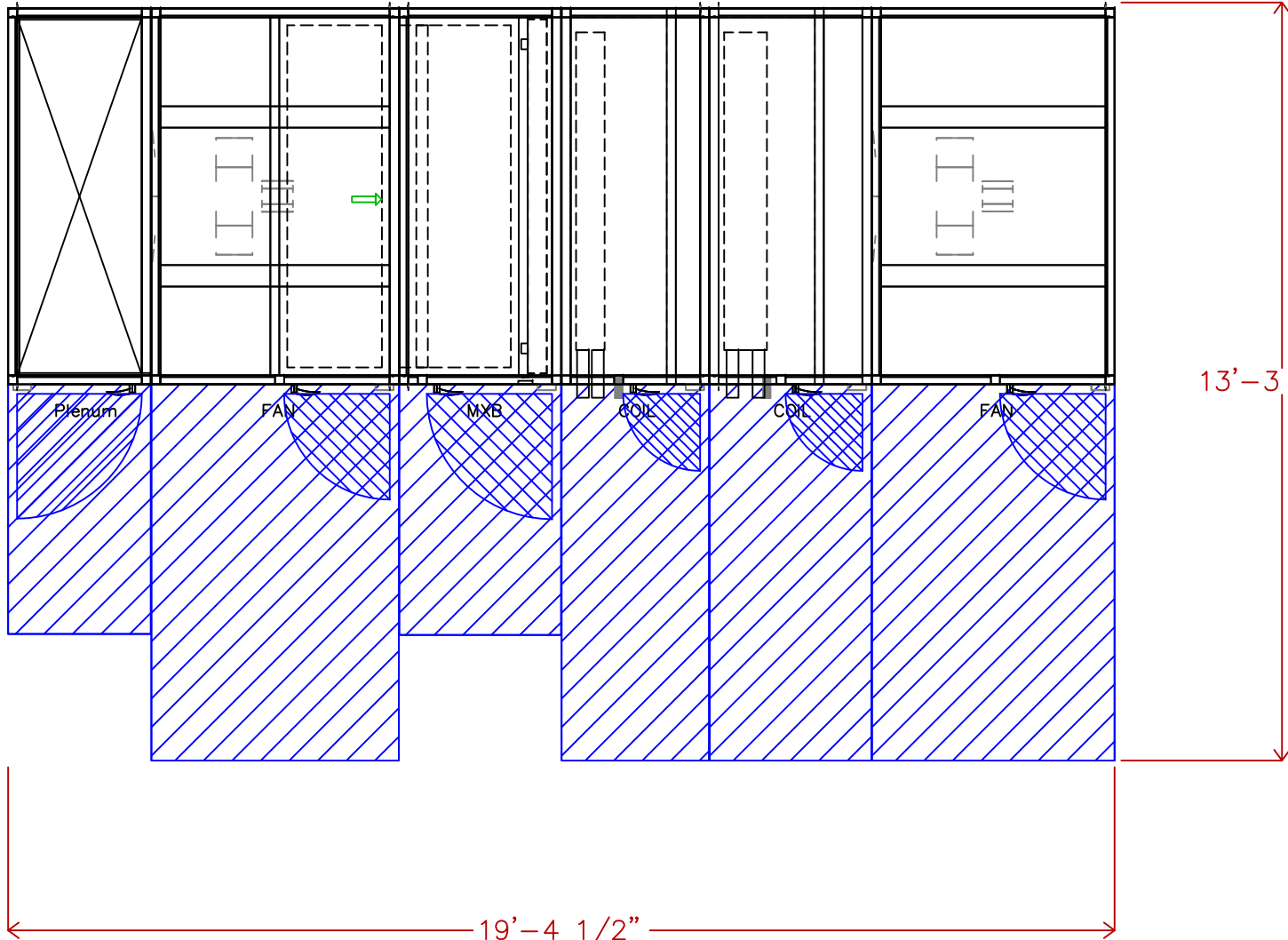
Downstream Corner Weight (each): 1376.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



DATE
4/27/2022

AHUBuilder
v6.69I

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-2
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 11 FPI Full Circuit (qty. 1)

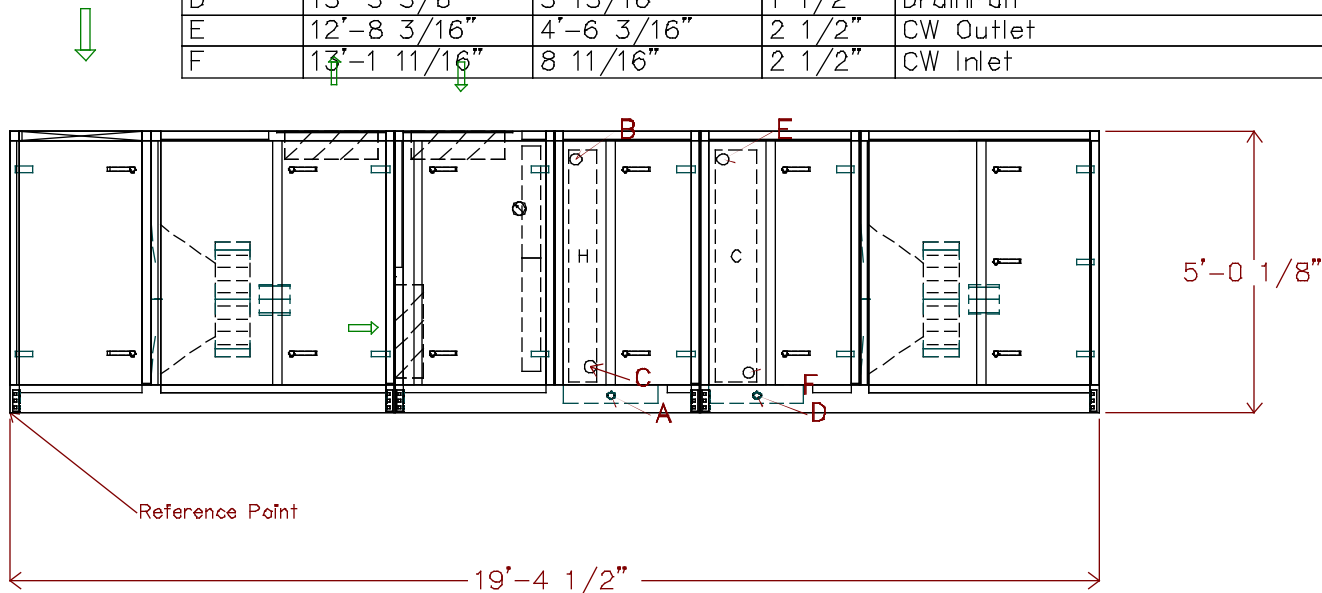


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	10'-8 5/16"	3 13/16"	1 1/2"	DrainPan
B	10'-0 3/4"	4'-6 3/16"	2 1/2"	HW Outlet
C	10'-3 15/16"	9 15/16"	2 1/2"	HW Inlet
D	13'-3 3/8"	3 13/16"	1 1/2"	DrainPan
E	12'-8 3/16"	4'-6 3/16"	2 1/2"	CW Outlet
F	13'-1 11/16"	8 11/16"	2 1/2"	CW Inlet



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
 CMS Hidden Valley, Grier, Newell: AHU-2
 Assembly Drawing

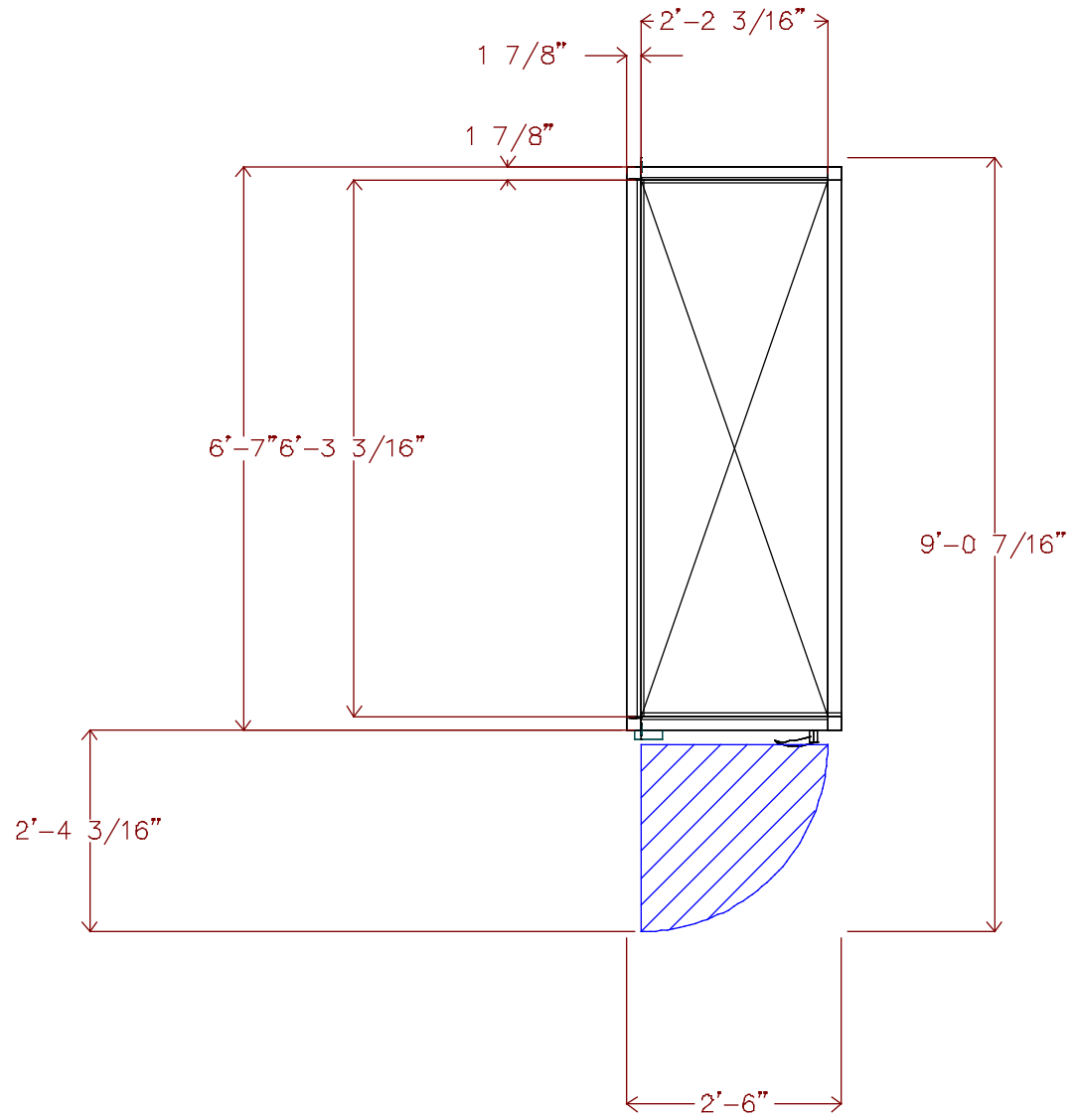
REVISION
Side View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

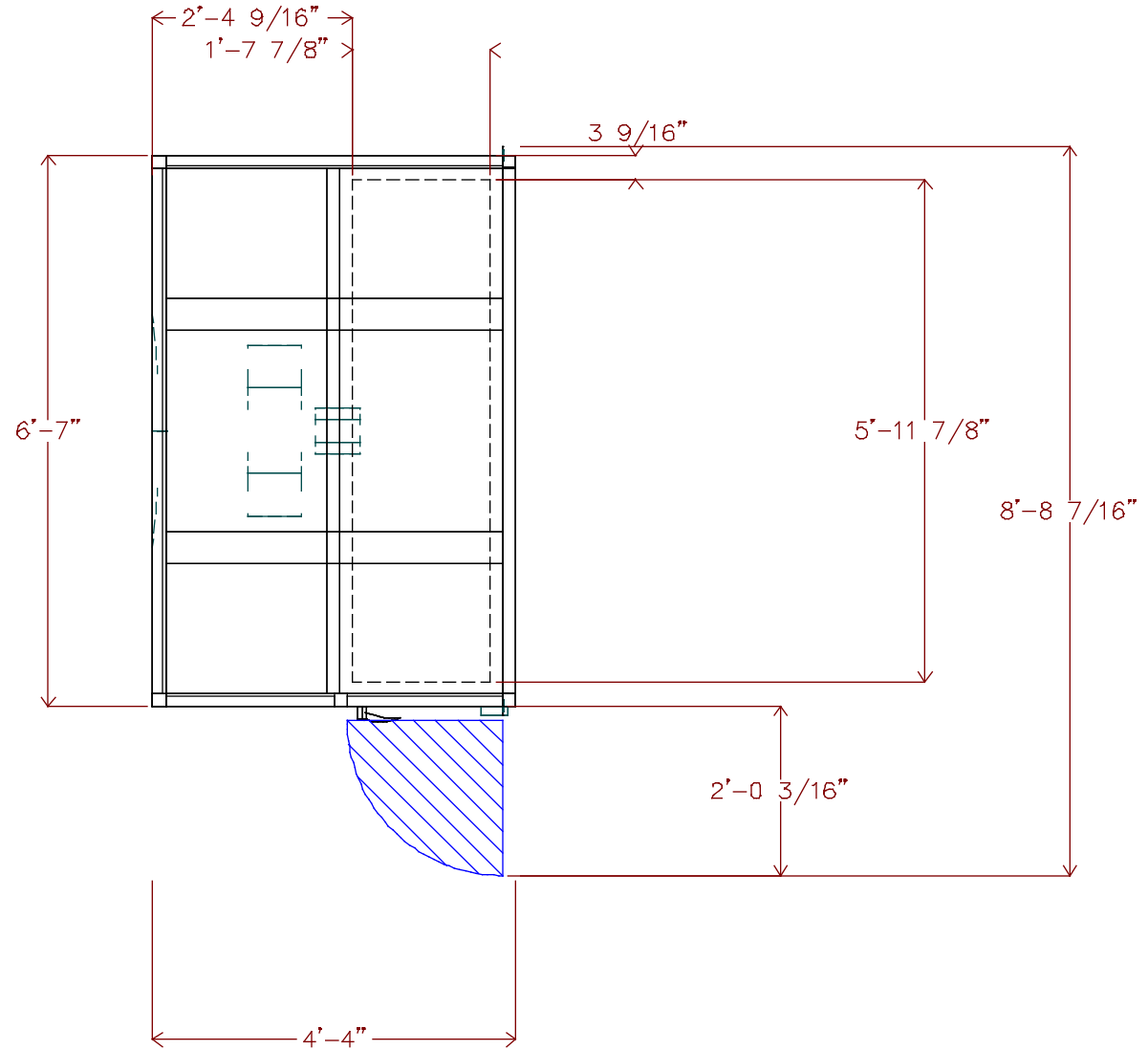
AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-2
Turning Plenum

REVISION
Top View

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

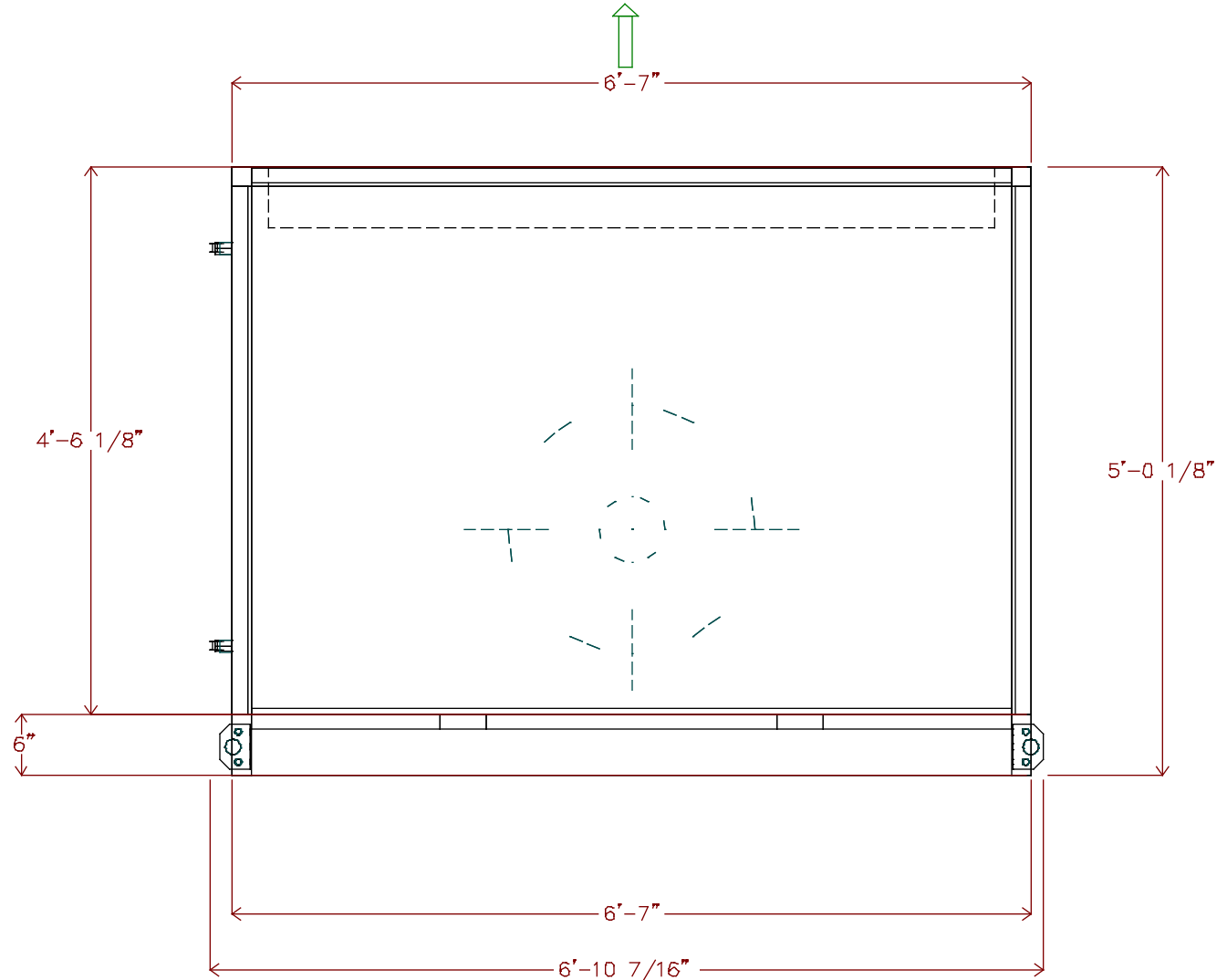
39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-2
Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

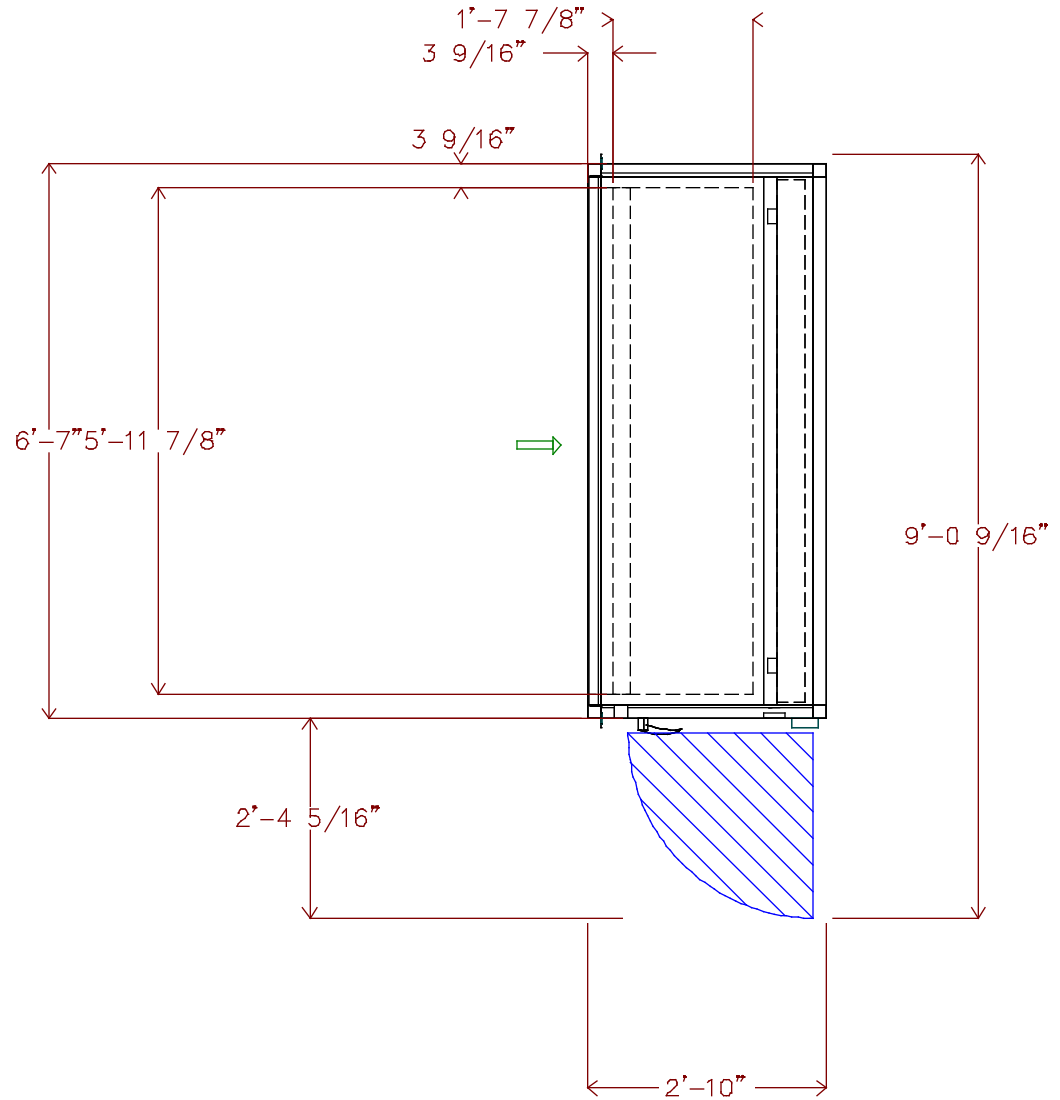
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-2
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (6) 20in. x 25in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 21W CMS Hidden Valley, Grier, Newell: AHU-2 Filter Mixing Box	REVISION Top View
-------------------	----------------------	---	----------------------

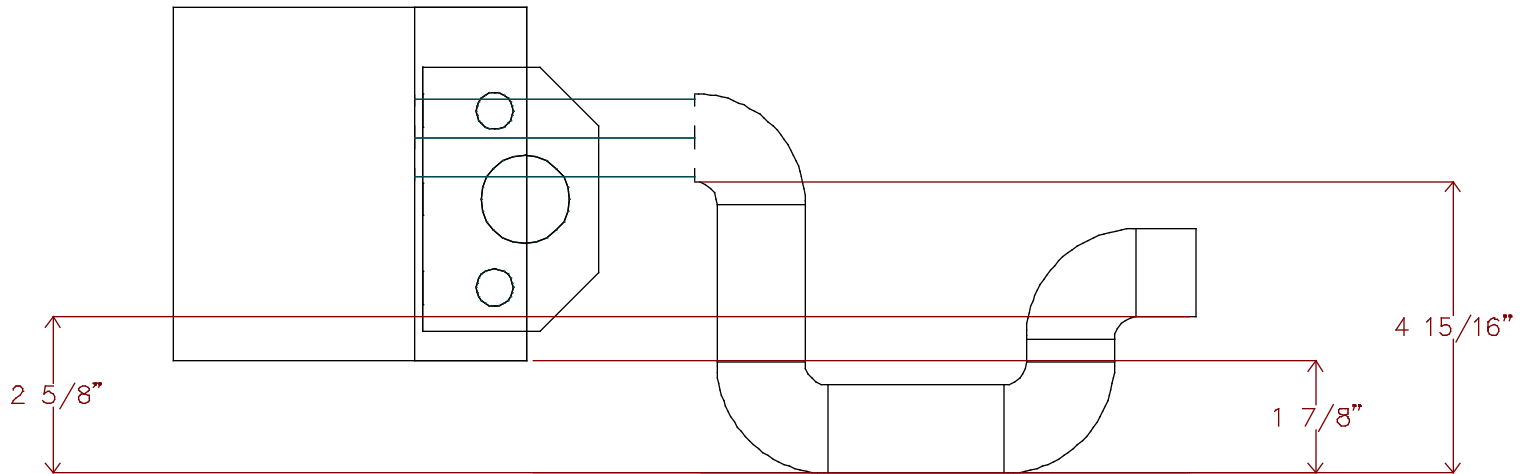


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-2
Condensate Trap Dimensions

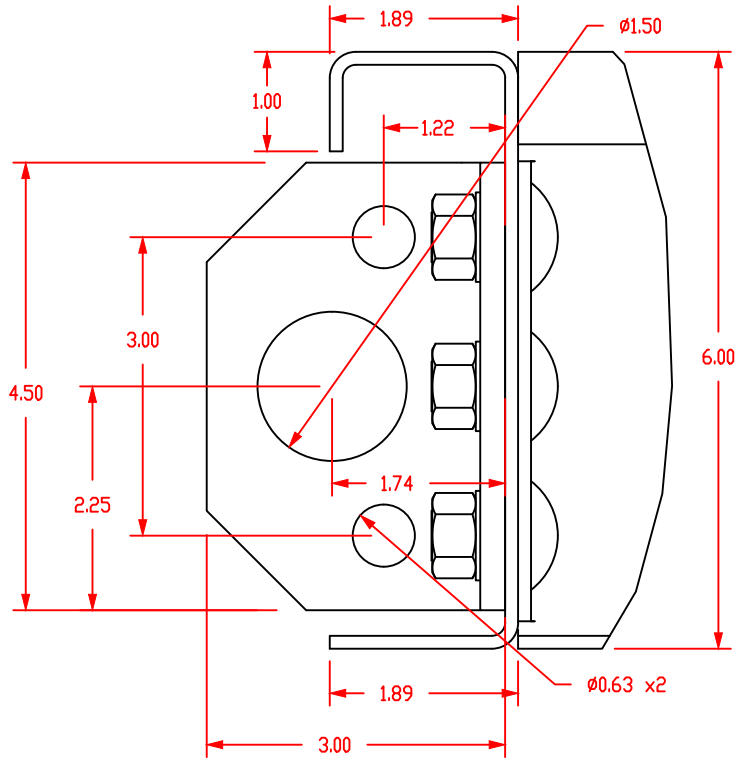
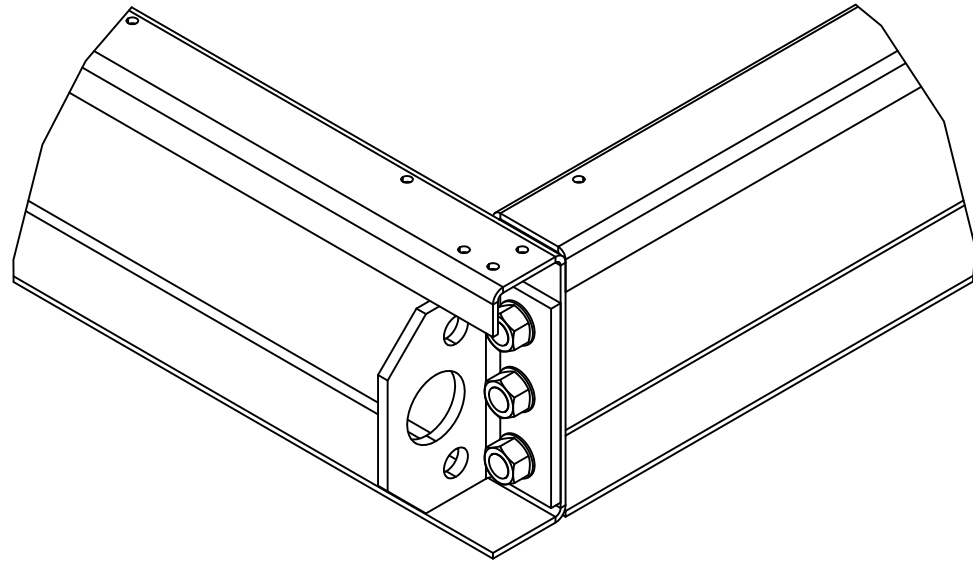
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

PERFORMANCE OR ACCEPTANCE OF CONTRACT DOCUMENTS DOES NOT CONSTITUTE PART OF THESE DRAWINGS OR CARRIER CORPORATION'S WRITTEN CONSENT

39M

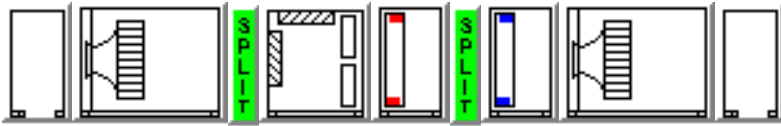


DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION



Unit Parameters

Aero Indoor Air Handler

39MN Size 12W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Bottom

Door Right Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan A PDLA01182

Direct Drive Fan

2043 fanRPM Class II

Full Open Discharge

Spring Fan Isolation

Motor Shaft Grounding

Motor

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 182T

Motor Shaft Diameter (in.) - 1.125

Voltage Selected - 460/3/60

Full Load Amps - 4.1

Efficiency - 89.5%

Door Right Side

Filter Mixing Box

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter

Field Supplied 2in. MERV 8 Throwaway Filter

Construction Filters
Qty (6) 16in. x 20in.

Door Right Side
Minihelic Differential Pressure Gage 0-2" w.c. Right Side

Hot Water Coil and Plenum

Shipping Split After
304 Stainless Steel Drain Pan Right Side
Hot Water 12.64 sq.ft 2 Row 8 FPI Full Circuit
Coil Connection Right Side
1/2 in. Tube Diameter
Fin Thickness: 0.0060
AL fins Galv. Casing
Steel Header
No Coating
Door Right Side

Chilled Water Coil and Plenum

304 Stainless Steel Drain Pan Right Side
Chilled Water 12.64 sq.ft 8 Row 14 FPI Full Circuit
Coil Connection Right Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Right Side

Blow-Thru Supply Fan

Rear Inlet
Fan Sled
Plenum Fan B PDLA01200

Direct Drive Fan
2064 fanRPM Class II

Full Open Discharge
Spring Fan Isolation
Motor Shaft Grounding

Motor
7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 213T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 9.5

Efficiency - 91.7%

Door Right Side

Blow Thru Plenum Section

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-3

Discharge : Bottom

Door Right Side

Configuration Notes

Preheat coil configurations can cause freezstat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Discharge duct(s) must be gasketed and screwed to the discharge opening of the unit.

Weights and Dimensions

(LxWxH in ft in) 19' 4" x 5' 8" x 3' 11" **

Operating 3876 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 Each Additional 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 10 - 17

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.

All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-3

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
8 / 14 / FL
.0042 in
Sine Wave
Large
12.64 sqft
490.5 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
6200 CFM
0 ft
5978 SCFM
286.42 MBH
191.49 MBH
46.9 gpm
6.2 ft wg
2.9 ft/s
44.00 F
56.18 F
12.2 F
80.00 F
67.00 F
31.50 BTU/lb
50.86 F
50.86 F
20.8 BTU/lb
1.11 in wg
FW
0 %
0.0 (hr-sqft-F)/BTU



Actual Airflow	6200	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	5978	SCFM
Total Cooling Capacity	286.42	MBH
Sensible Cooling Capacity	191.49	MBH
Fluid Flow Rate	46.9	gpm
Fluid Pressure Drop	6.2	ft wg
Fluid Velocity	2.9	ft/s
Entering Fluid Temperature	44.00	F
Leaving Fluid Temperature	56.18	F
Fluid Temperature Rise	12.2	F
Entering Air Dry Bulb	80.00	F
Entering Air Wet Bulb	67.00	F
Entering Air Enthalpy	31.50	BTU/lb
Leaving Air Dry Bulb	50.86	F
Leaving Air Wet Bulb	50.86	F
Leaving Air Enthalpy	20.8	BTU/lb
Air Friction	1.11	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-3

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
2 / 8 / FL
.0060 in
Sine Wave
Large
12.64 sqft
490.5 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
Actual Airflow **6200** CFM
 Site Altitude **0** ft
 Standard Airflow (adj. to std. dry atmosphere) **6259** SCFM
 Heating Capacity **166.48** MBH
Fluid Flow Rate **8.4** gpm
Fluid Pressure Drop **0.2** ft wg
 Fluid Velocity **0.5** ft/s
 Entering Fluid Temperature **160.00** F
 Leaving Fluid Temperature **119.52** F
 Fluid Temperature Drop **40.5** F
 Entering Air Temperature **65.00** F
 Leaving Air Temperature **89.33** F
 Air Friction **0.20** in wg
 Brine **FW**
 Brine Concentration **0** %
 Fouling Factor **0.0** (hr-sqft-F)/BTU



Actual Airflow	6200	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	6259	SCFM
Heating Capacity	166.48	MBH
Fluid Flow Rate	8.4	gpm
Fluid Pressure Drop	0.2	ft wg
Fluid Velocity	0.5	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	119.52	F
Fluid Temperature Drop	40.5	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	89.33	F
Air Friction	0.20	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-3

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	92	85	83
125 Hz _____	91	84	82
250 Hz _____	93	93	90
500 Hz _____	91	88	84
1000 Hz _____	84	79	76
2000 Hz _____	83	75	71
4000 Hz _____	80	75	71
8000 Hz _____	76	72	68

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	66	59	56
125 Hz _____	75	68	66
250 Hz _____	84	85	81
500 Hz _____	88	85	80
1000 Hz _____	84	79	76
2000 Hz _____	85	76	72
4000 Hz _____	81	76	72
8000 Hz _____	75	71	67

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	85	83	79
125 Hz _____	83	82	78
250 Hz _____	86	90	84
500 Hz _____	83	85	80
1000 Hz _____	79	77	73
2000 Hz _____	78	73	67
4000 Hz _____	76	73	67
8000 Hz _____	73	70	64

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	59	56	52
125 Hz _____	67	66	62
250 Hz _____	78	81	76
500 Hz _____	80	82	77
1000 Hz _____	79	77	73
2000 Hz _____	79	74	68
4000 Hz _____	77	74	68
8000 Hz _____	72	69	63

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

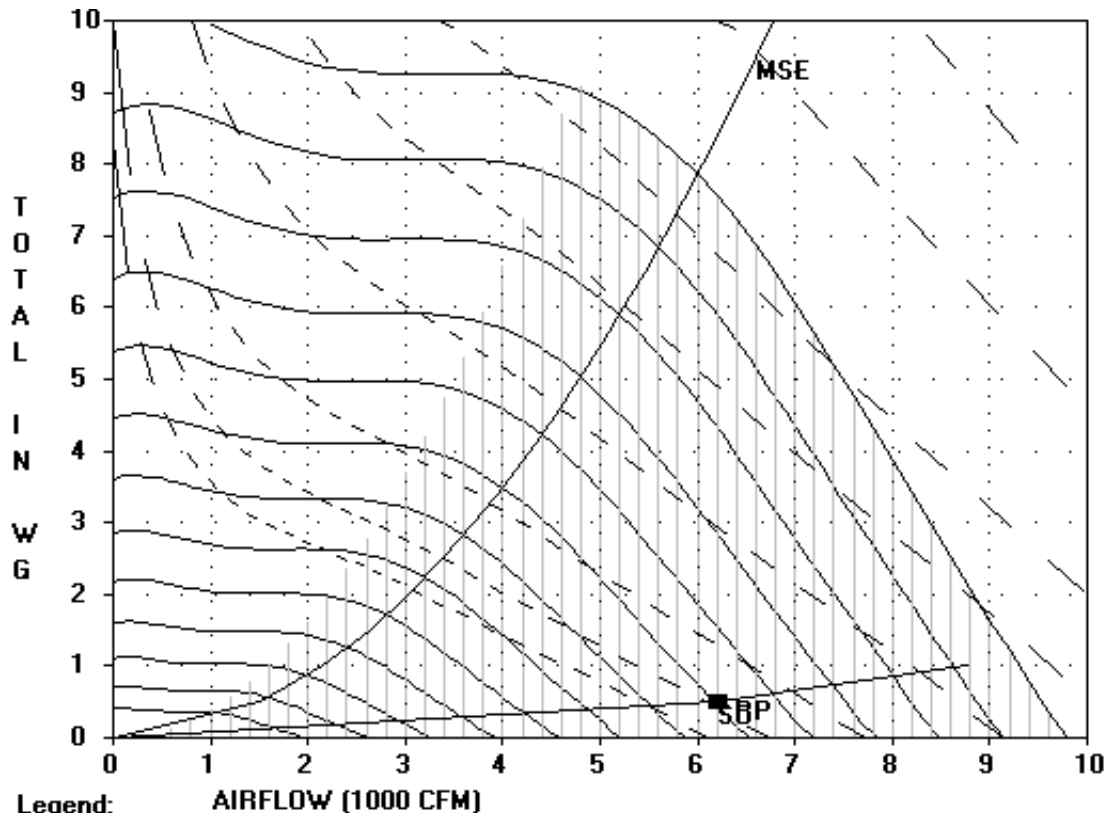
Sound contributed by Return Fan

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-3

Fan Model	39M1201HPDL
Unit Size	12W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	18.2
Fan Class	II
Static Efficiency (%)	24
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	6200
Site Altitude, , ft	0
Total Upstream Static Losses, in wg	0.50
Number of Fans	1
Calculated Fan RPM / Motor RPM	2043 / 1800
Class II Max. RPM	2979
Fan BHP	2.1
Fan Electrical Power, kW	1.7

Unit is outside of the scope of AHRI Standard 430/431.



Legend:

AIRFLOW (1000 CFM)

- RPM
- BHP
MSE - Max. Static Eff.
SC - System Curve
RP - Rated Point

RPM = 2043 BHP = 2.1 CLASS II MAX. RPM = 2979

RPM's (x 100, L to R): 6. 8. 10. 12. 14. 16. 18. 20. 22. 24. 26. 28. 30.

BHP's (L to R): 1.5 2 3 5 7.5 10 15 20

Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-3

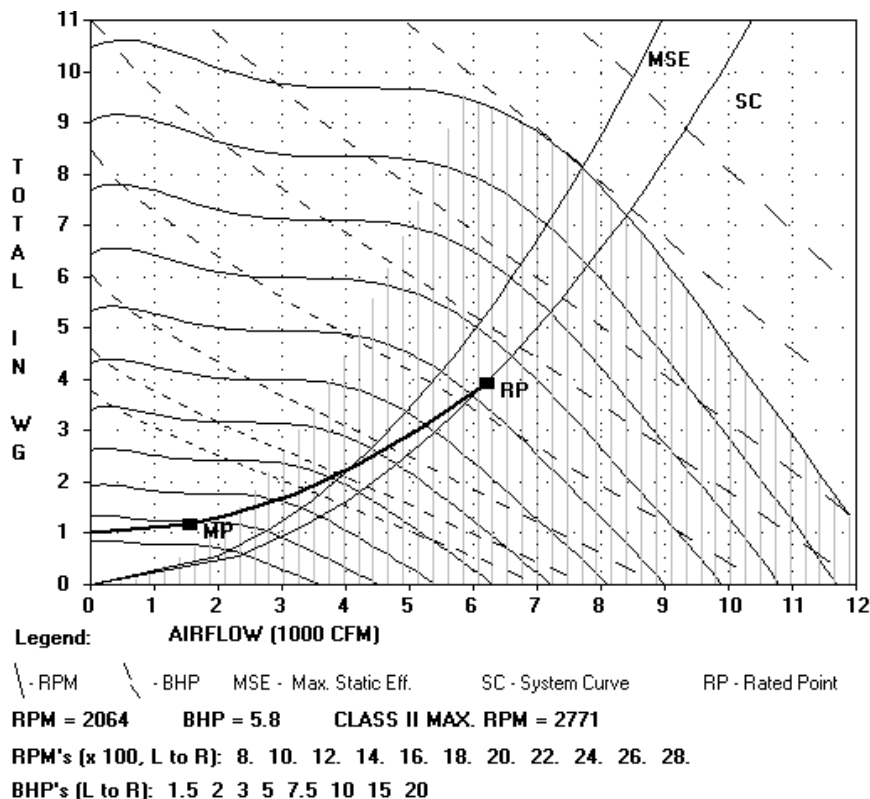
Fan Model	39M1201HPDL-D
Unit Size	12W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	20
Fan Class	II
Fan Application	Blow Thru
Orientation	Horizontal
Actual Airflow, CFM	6200
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	2.25
Cooling Coil Static, in wg	1.11
Heating Coil Static, in wg	0.20
Total Accessory Static, in wg	0.37
Total Static Pressure, in wg	3.93
Calculated Fan RPM / Motor RPM	2064 / 1800
Class II Max. RPM	2771
Static Efficiency (%)	66
Number of Fans	1
Fan BHP	5.8
Fan Electrical Power, kW	4.7



Accessories:

- (1) Flat Throwaway (2 in.) [0.24]
- (1) Mixing or Exhaust Box [0.13]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahrirectory.org



Unit width: 5'-8 11/16" (plus lifting lugs)
 Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 2In. Flat Filter
 Qty (6) 16in. x 20in.
 Hot Water 2 Row 8 FPI Full Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Blow-Thru Supply Fan
 7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 3876.0 lbs.
 Upstream Corner Weight (each): 977.0 lbs.
 Downstream Corner Weight (each): 961.0 lbs.

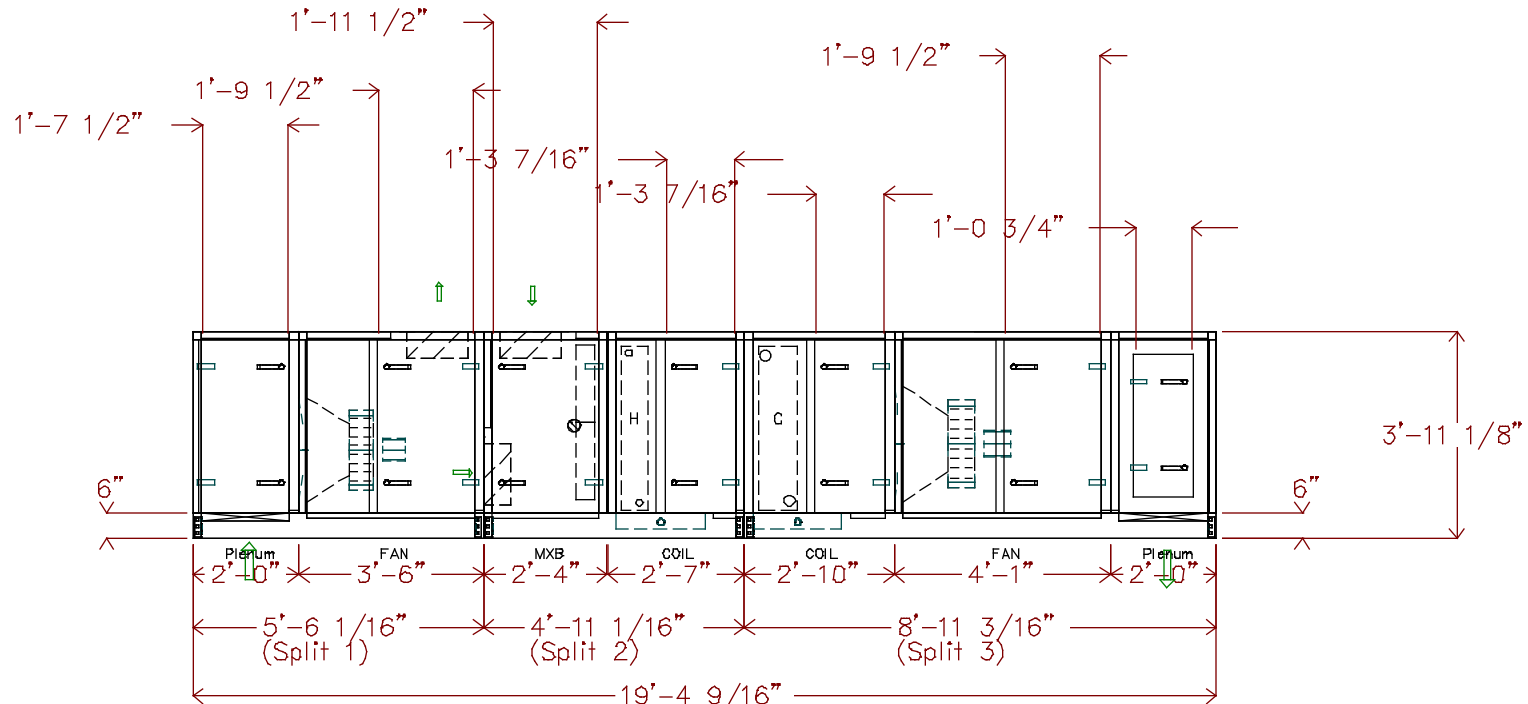


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Split	Airway Length	Weight (lbs.)
(Split 1)	5'-6 1/16"	1024
(Split 2)	4'-11 1/16"	994
(Split 3)	8'-11 3/16"	1858



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-3
 Assembly Drawing

REVISION
Side View

Unit viewed from right side of side elevation view.
 Unit length: 19'-4 9/16"
 Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 2In. Flat Filter
 Qty (6) 16in. x 20in.
 Hot Water 2 Row 8 FPI Full Circuit (qty. 1)

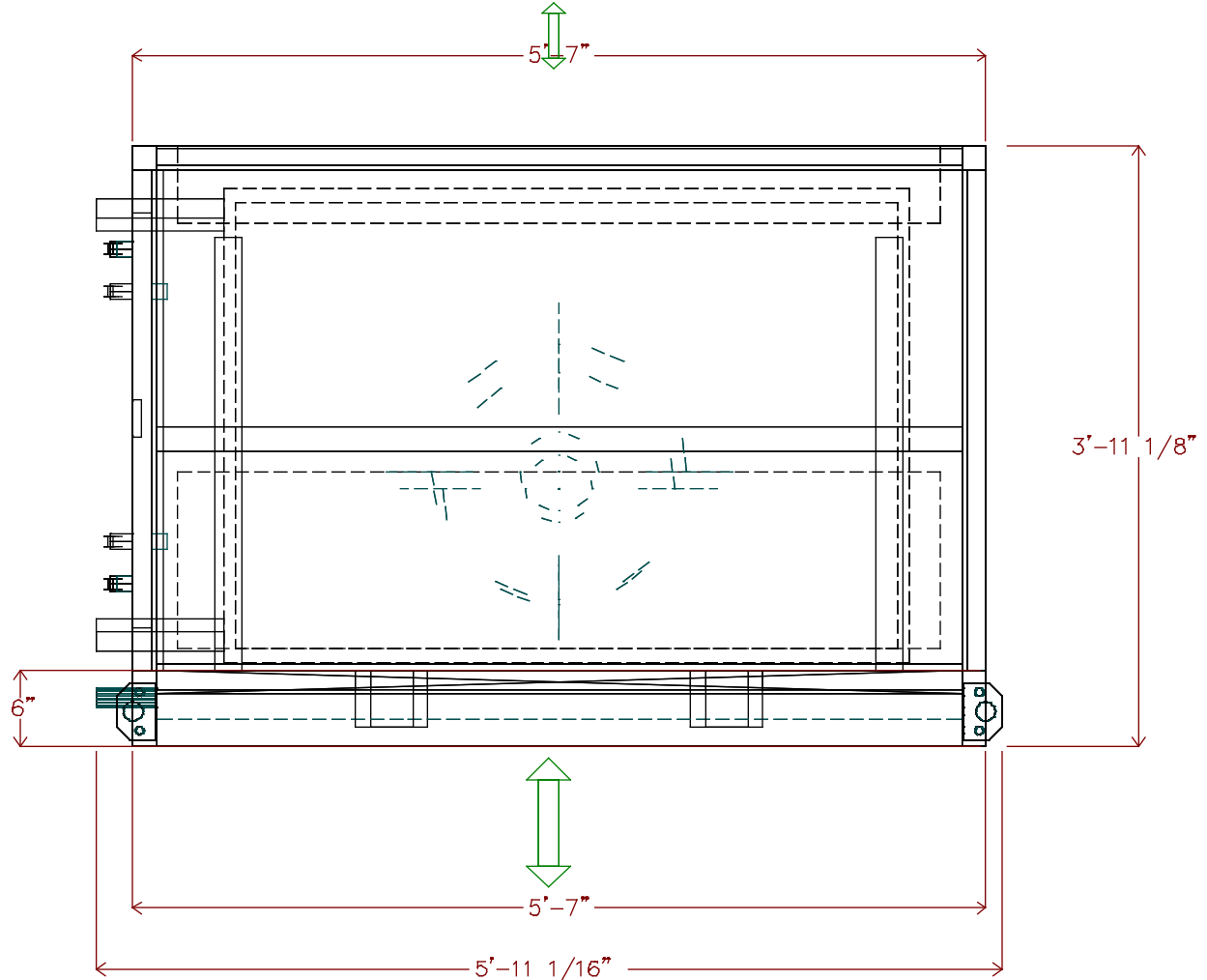
Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)
 Blow-Thru Supply Fan
 7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 3876.0 lbs.
 Upstream Corner Weight (each): 977.0 lbs.
 Downstream Corner Weight (each): 961.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-3
 Assembly Drawing

REVISION
End View

Unit height: 3'-11 1/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

2in. Flat Filter

Qty (6) 16in. x 20in.

Hot Water 2 Row 8 FPI Full Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Blow-Thru Supply Fan

7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 3876.0 lbs.

Upstream Corner Weight (each): 977.0 lbs.

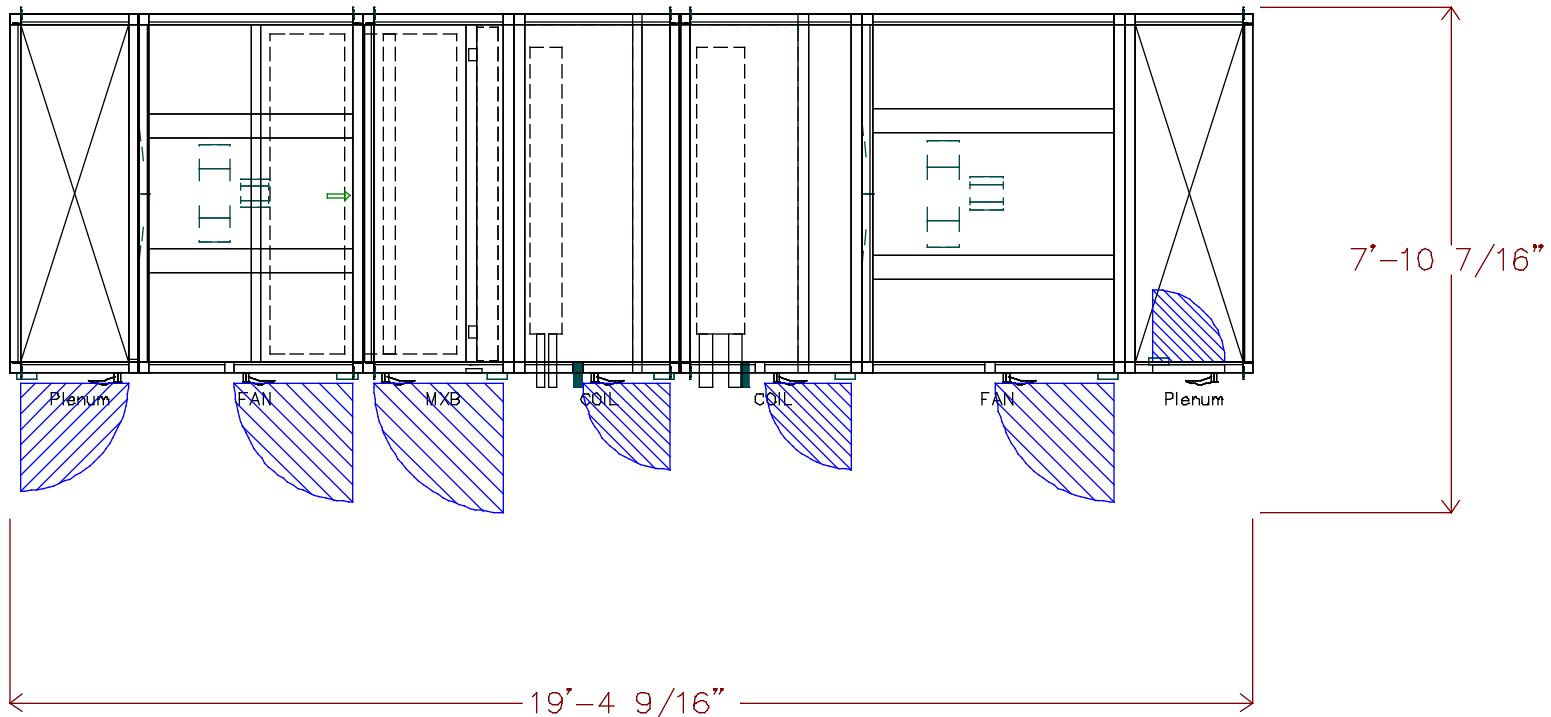
Downstream Corner Weight (each): 961.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-3
Assembly Drawing

REVISION
Top View

Unit height: 3'-11 1/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

2In. Flat Filter

Qty (6) 16in. x 20in.

Hot Water 2 Row 8 FPI Full Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Blow-Thru Supply Fan

7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 3876.0 lbs.

Upstream Corner Weight (each): 977.0 lbs.

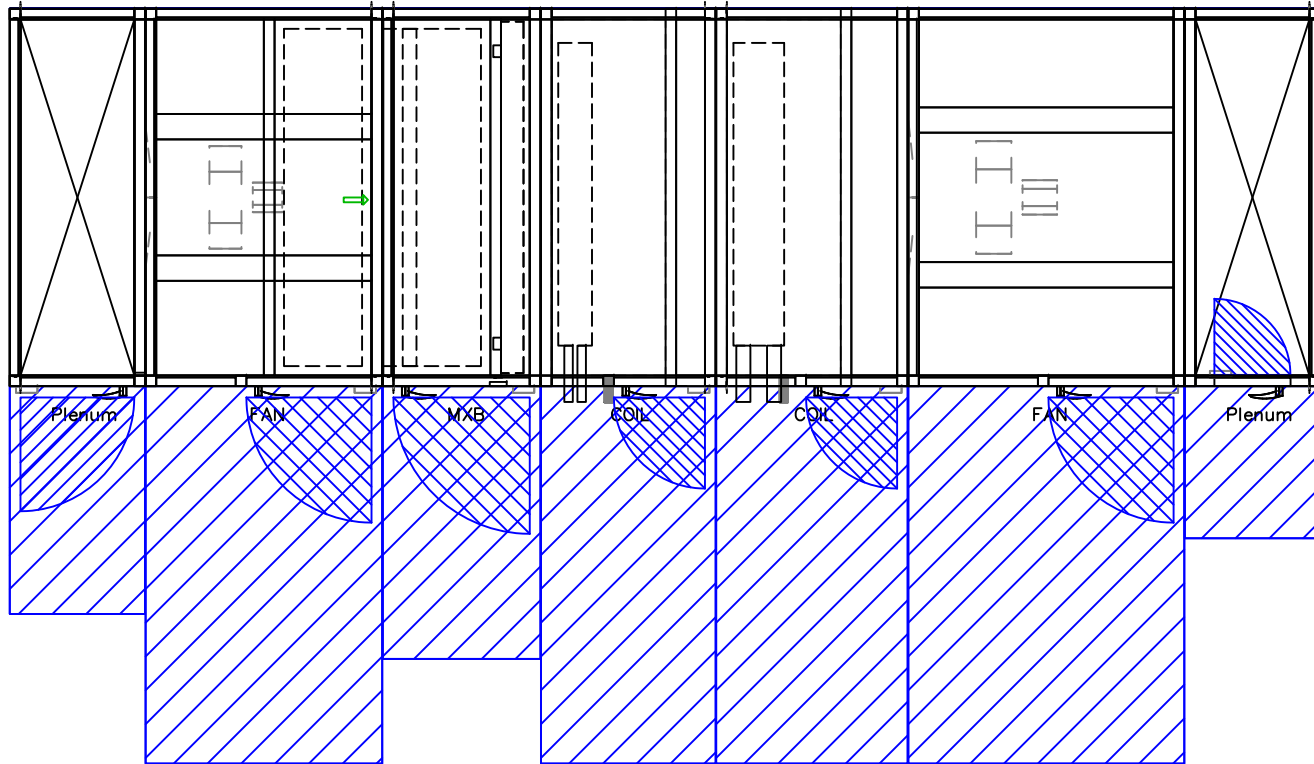
Downstream Corner Weight (each): 961.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



11'-3 1/4"

19'-4 9/16"

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-3
Assembly Drawing

REVISION
Top View

Hot Water 2 Row 8 FPI Full Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

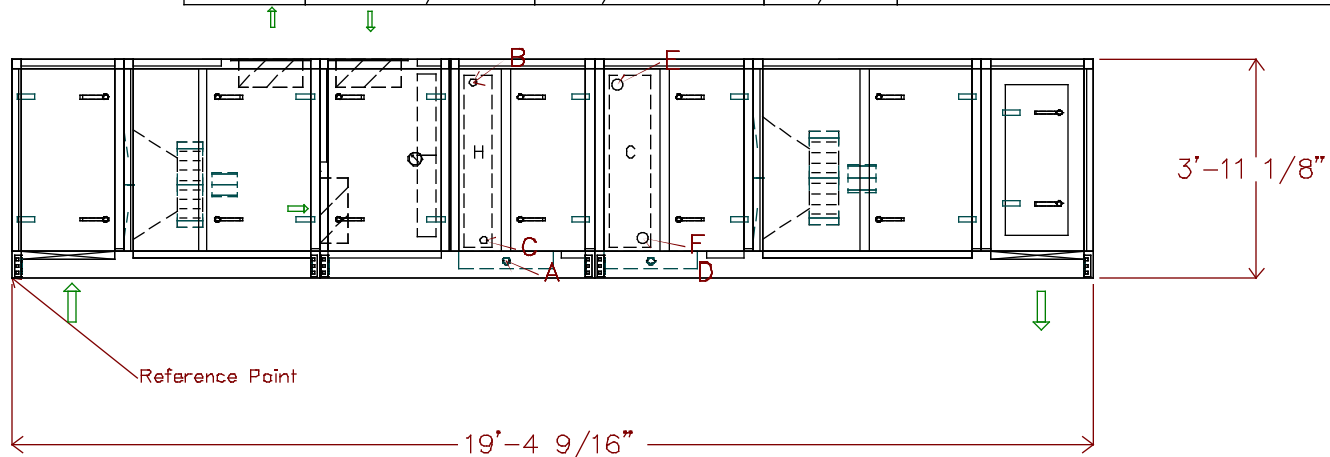


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	8'-10 5/16"	3 13/16"	1 1/2"	DrainPan
B	8'-3 3/16"	3'-6 3/16"	1 1/2"	HW Outlet
C	8'-5 1/2"	8 3/16"	1 1/2"	HW Inlet
D	11'-5 3/8"	3 13/16"	1 1/2"	DrainPan
E	10'-10 3/16"	3'-5 11/16"	2 1/2"	CW Outlet
F	11'-3 11/16"	8 11/16"	2 1/2"	CW Inlet



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-3
 Assembly Drawing

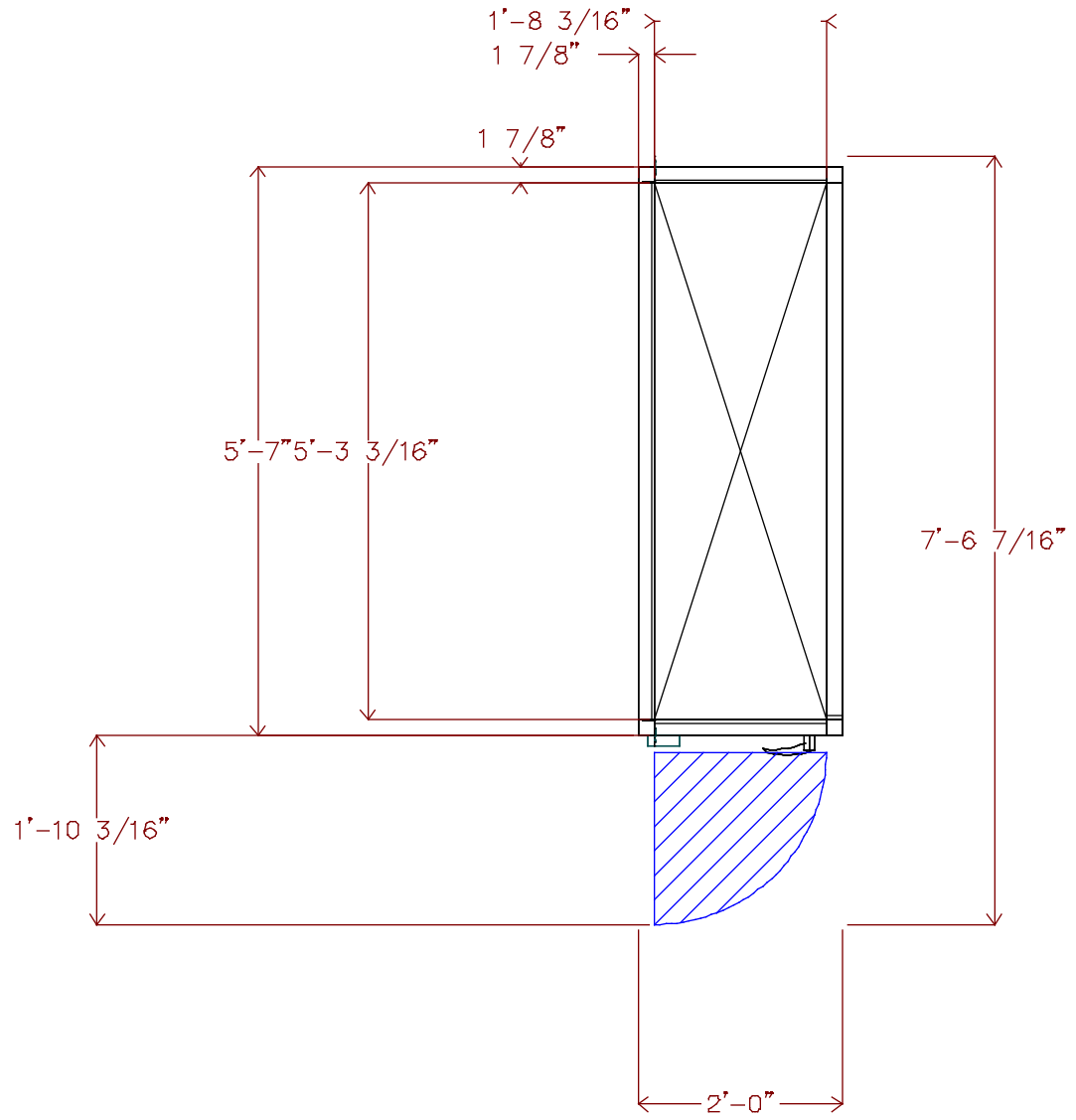
REVISION
Side View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



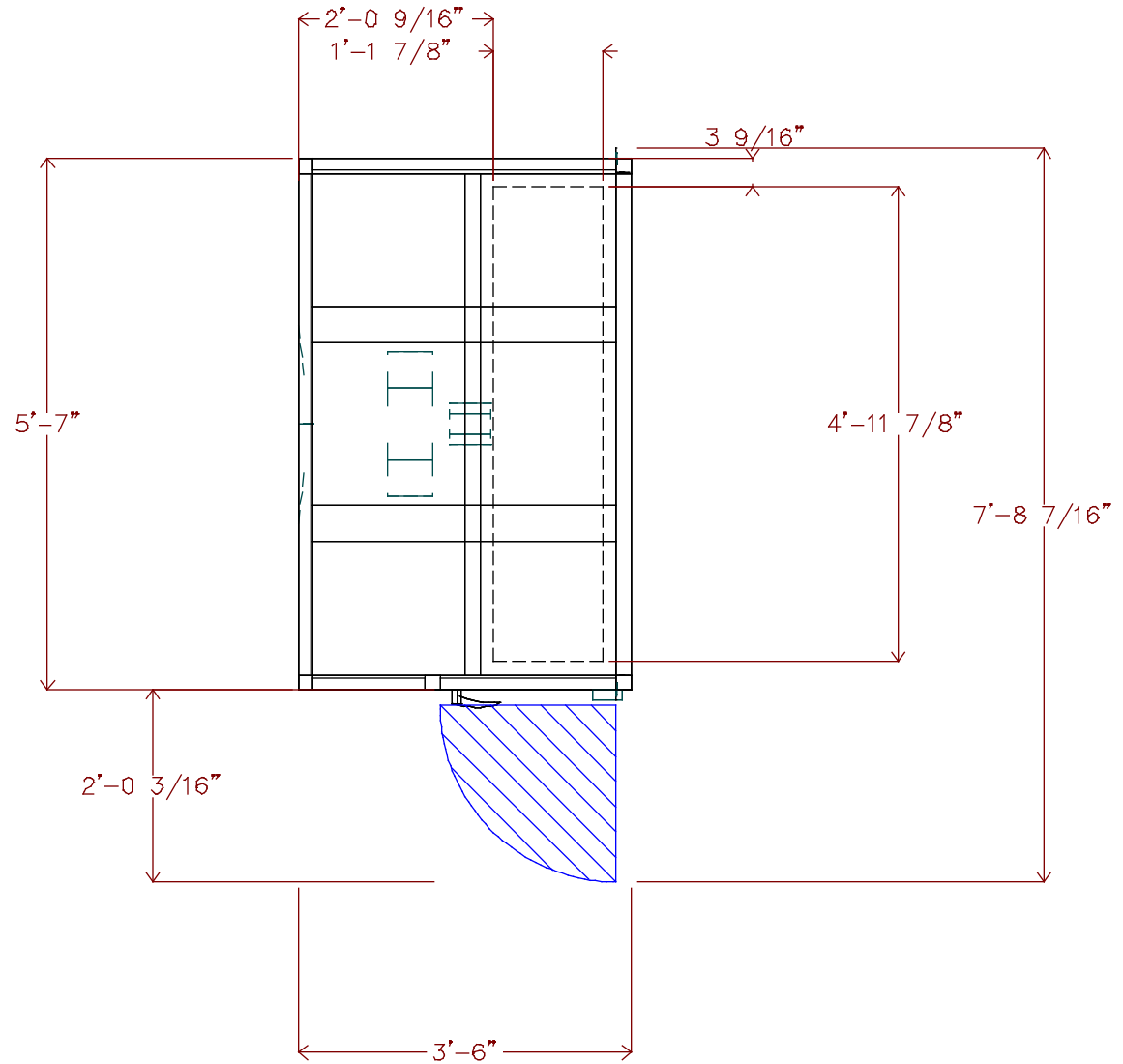
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-3
Turning Plenum

REVISION
Top View

Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

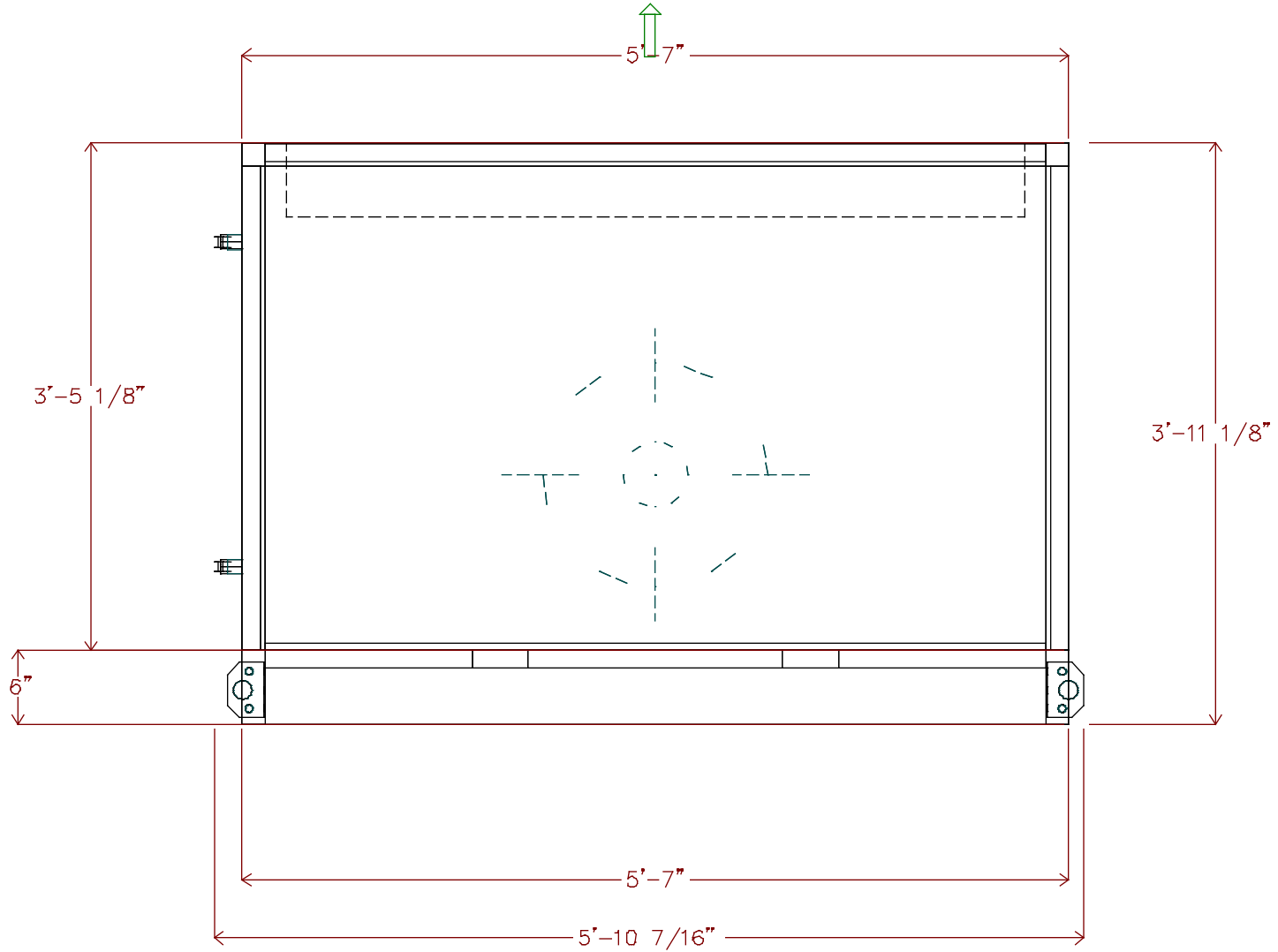
39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 12W CMS Hidden Valley, Grier, Newell: AHU-3 Return Fan	REVISION Top View
-------------------	----------------------	--	----------------------

Unit viewed from right side of side elevation view.

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

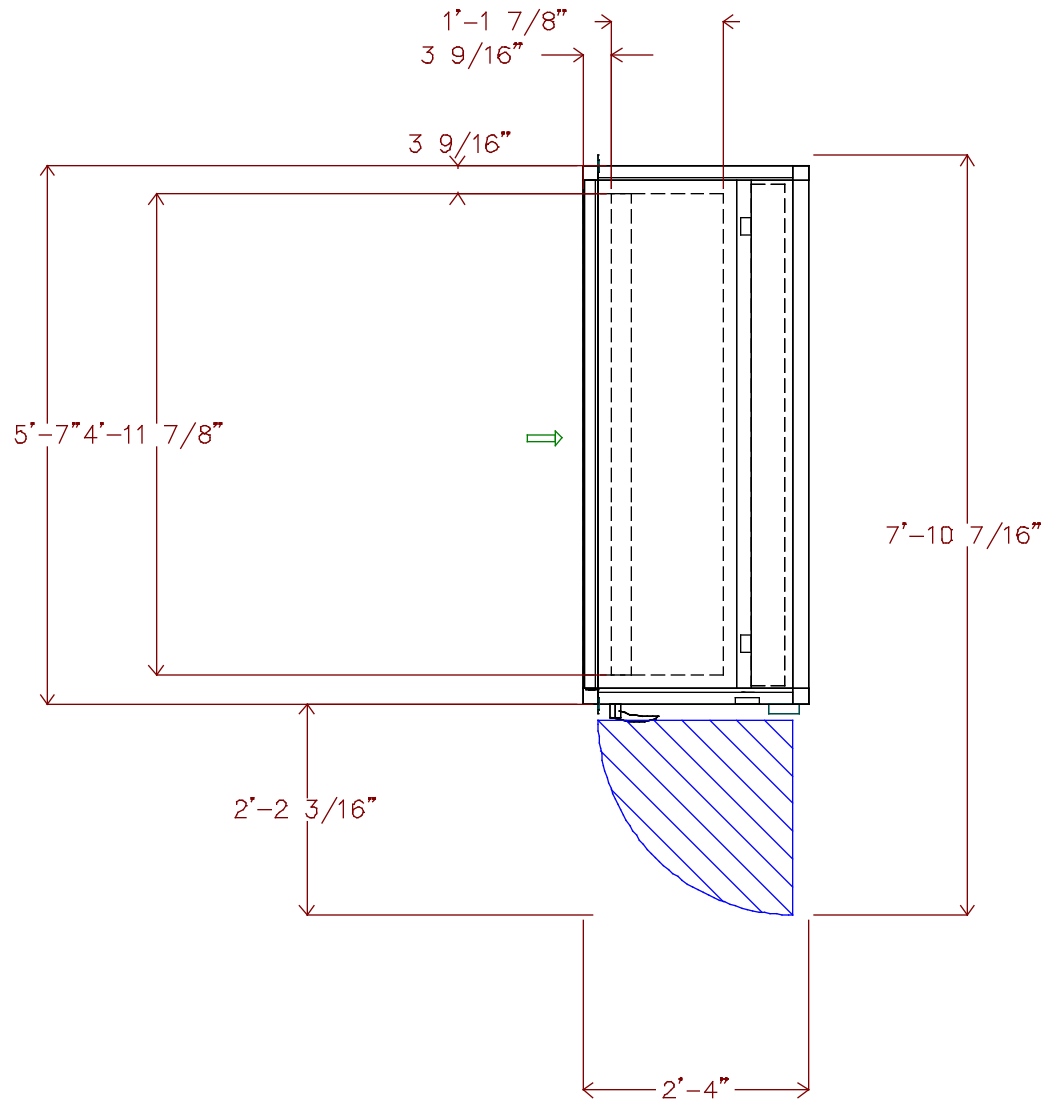
SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 12W CMS Hidden Valley, Grier, Newell: AHU-3 Return Fan
-------------------	----------------------	--

REVISION End View

2In. Flat Filter
 Qty (6) 16in. x 20in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
 5/27/2022

AHUBuilder
 v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-3
 Filter Mixing Box

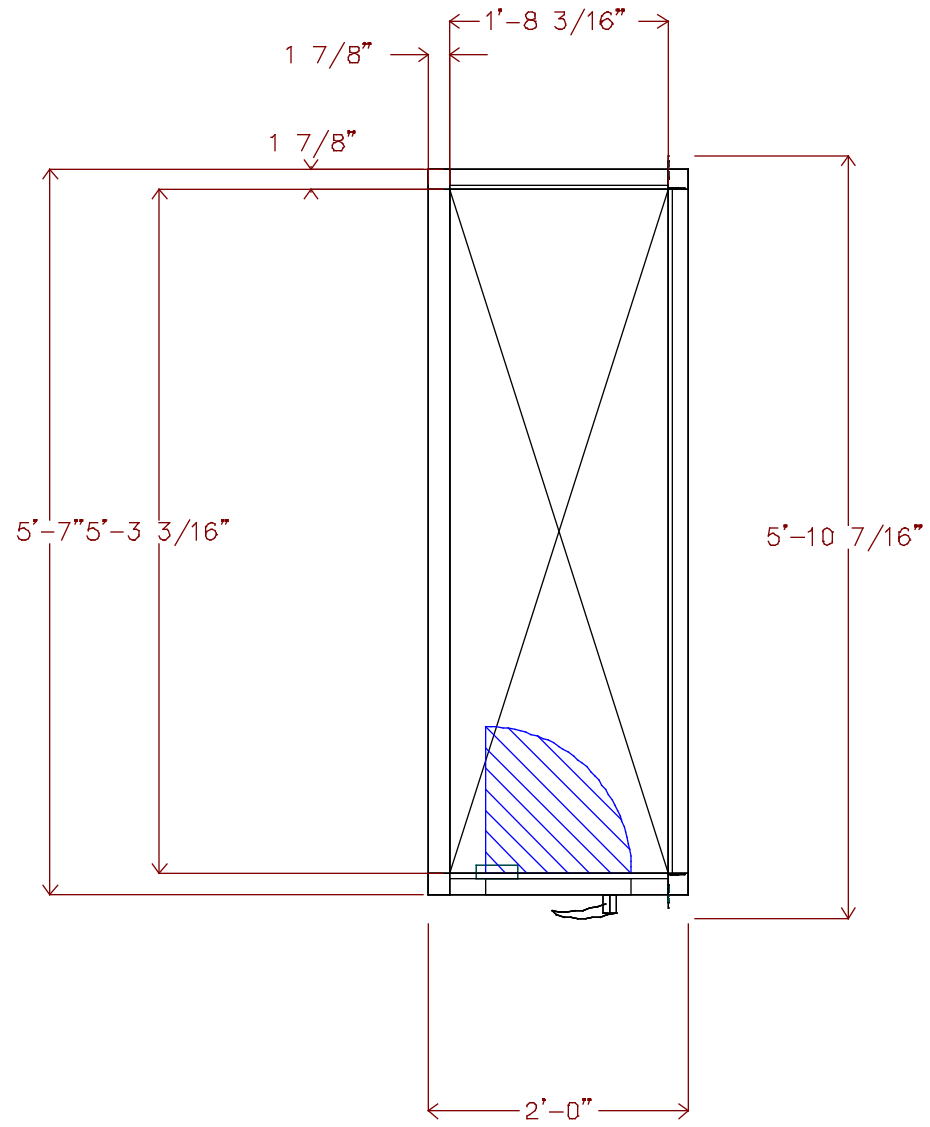
REVISION
 Top View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-3
Blow Thru Plenum Section

REVISION
Top View

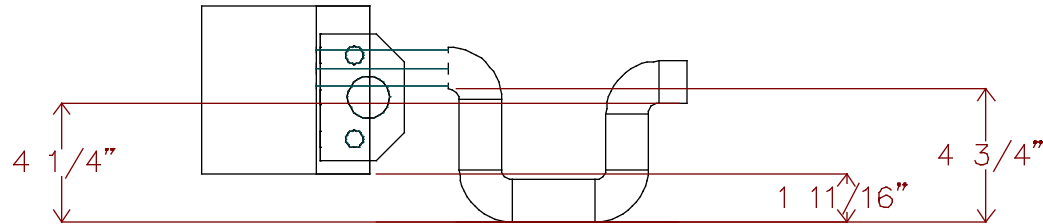


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

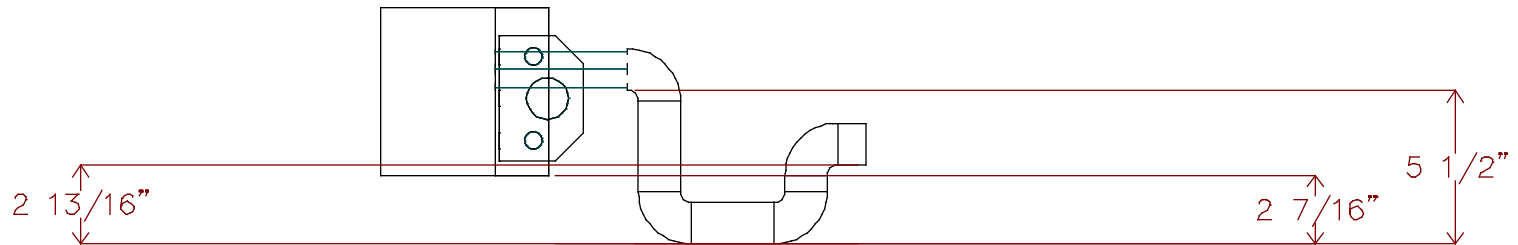
SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

BLOW-THRU



DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-3
Condensate Trap Dimensions

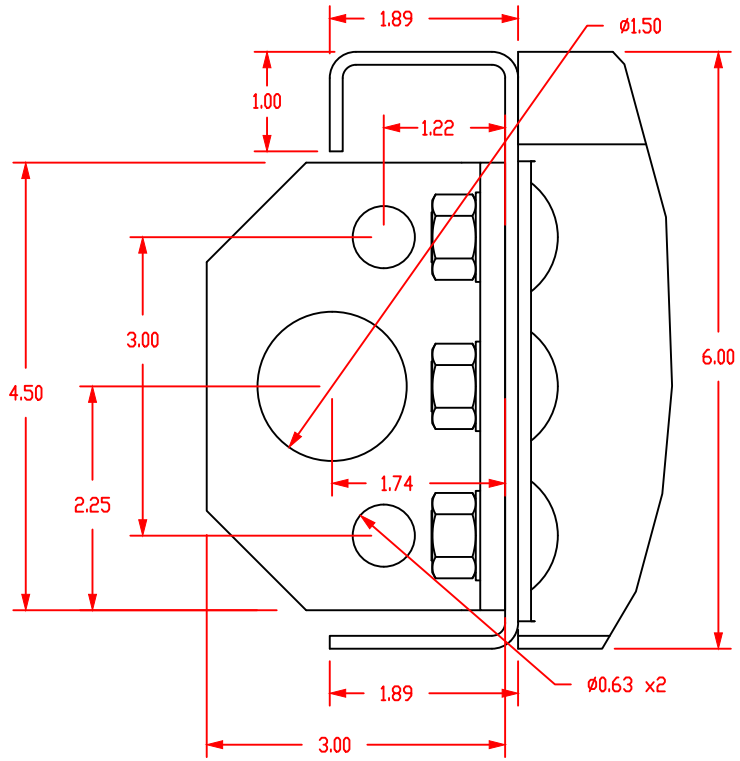
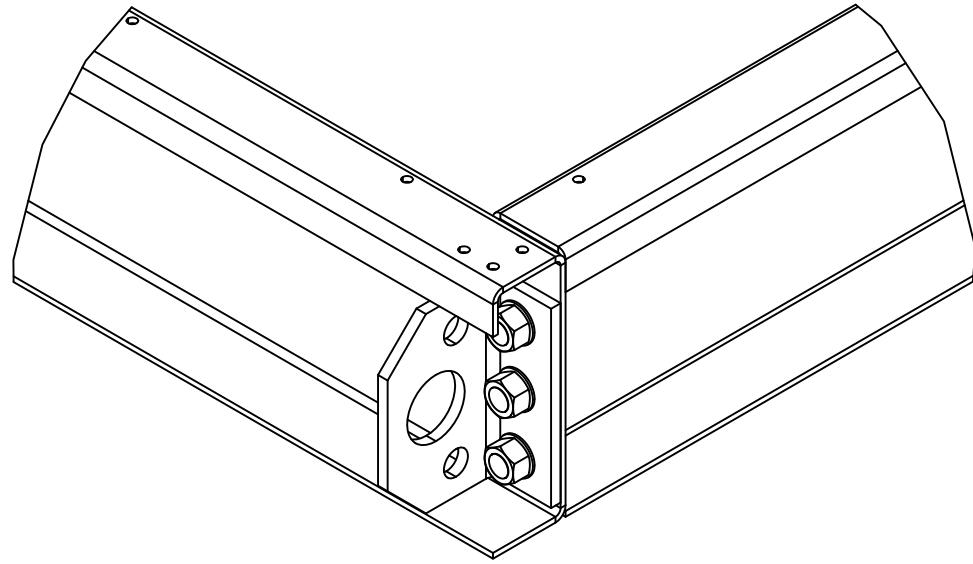
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M

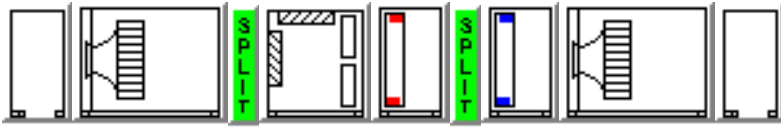


DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION



Unit Parameters

Aero Indoor Air Handler

39MN Size 12W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Bottom

Door Left Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan A PDLA01182

Direct Drive Fan

1981 fanRPM Class II

Full Open Discharge

Spring Fan Isolation

Motor Shaft Grounding

Motor

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 145T

Motor Shaft Diameter (in.) - 0.875

Voltage Selected - 460/3/60

Full Load Amps - 2.9

Efficiency - 86.5%

Door Left Side

Filter Mixing Box

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter

Field Supplied 2in. MERV 8 Throwaway Filter

Construction Filters
Qty (6) 16in. x 20in.

Door Left Side
Minihelic Differential Pressure Gage 0-2" w.c. Left Side

Hot Water Coil and Plenum

Shipping Split After
304 Stainless Steel Drain Pan Left Side
Hot Water 12.64 sq.ft 1 Row 11 FPI Half Circuit
Coil Connection Left Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Left Side

Chilled Water Coil and Plenum

304 Stainless Steel Drain Pan Left Side
Chilled Water 12.64 sq.ft 8 Row 14 FPI Full Circuit
Coil Connection Left Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Left Side

Blow-Thru Supply Fan

Rear Inlet

Fan Sled

Plenum Fan B PDLA01200

Direct Drive Fan
2023 fanRPM Class II

Full Open Discharge
Spring Fan Isolation
Motor Shaft Grounding

Motor

7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 213T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 9.5

Efficiency - 91.7%

Door Left Side

Blow Thru Plenum Section

Discharge : Bottom

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-4

Door Left Side

Configuration Notes

Preheat coil configurations can cause freezstat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Discharge duct(s) must be gasketed and screwed to the discharge opening of the unit.

Weights and Dimensions

(LxWxH in ft in) 19' 4" x 5' 8" x 3' 11" **

Operating 3785 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 Each Additional 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 10 - 17

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.
All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-4

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
8 / 14 / FL
.0042 in
Sine Wave
Large
12.64 sqft
474.7 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
6000 CFM
0 ft
5785 SCFM
278.52 MBH
185.90 MBH
45.4 gpm
5.8 ft wg
2.8 ft/s
44.00 F
56.23 F
12.2 F
80.00 F
67.00 F
31.50 BTU/lb
50.77 F
50.77 F
20.7 BTU/lb
1.05 in wg
FW
0 %
0.0 (hr-sqft-F)/BTU



Actual Airflow	6000	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	5785	SCFM
Total Cooling Capacity	278.52	MBH
Sensible Cooling Capacity	185.90	MBH
Fluid Flow Rate	45.4	gpm
Fluid Pressure Drop	5.8	ft wg
Fluid Velocity	2.8	ft/s
Entering Fluid Temperature	44.00	F
Leaving Fluid Temperature	56.23	F
Fluid Temperature Rise	12.2	F
Entering Air Dry Bulb	80.00	F
Entering Air Wet Bulb	67.00	F
Entering Air Enthalpy	31.50	BTU/lb
Leaving Air Dry Bulb	50.77	F
Leaving Air Wet Bulb	50.77	F
Leaving Air Enthalpy	20.7	BTU/lb
Air Friction	1.05	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-4

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 11 / HF
.0042 in
Sine Wave
Large
12.64 sqft
474.7 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow _____	6000	CFM
Site Altitude _____	0	ft
Standard Airflow (adj. to std. dry atmosphere) _____	6057	SCFM
Heating Capacity _____	110.64	MBH

Fluid Flow Rate _____	5.3	gpm
Fluid Pressure Drop _____	0.2	ft wg

Fluid Velocity _____	0.6	ft/s
Entering Fluid Temperature _____	160.00	F
Leaving Fluid Temperature _____	117.36	F
Fluid Temperature Drop _____	42.6	F
Entering Air Temperature _____	65.00	F
Leaving Air Temperature _____	81.70	F
Air Friction _____	0.20	in wg
Brine _____	FW	
Brine Concentration _____	0	%
Fouling Factor _____	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
Tag: AHU-4

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	92	84	82
125 Hz _____	90	84	81
250 Hz _____	92	93	89
500 Hz _____	90	86	82
1000 Hz _____	84	78	74
2000 Hz _____	83	74	70
4000 Hz _____	79	74	70
8000 Hz _____	75	71	67

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	65	58	56
125 Hz _____	74	67	65
250 Hz _____	84	84	81
500 Hz _____	87	83	79
1000 Hz _____	84	78	74
2000 Hz _____	84	76	71
4000 Hz _____	80	75	71
8000 Hz _____	74	70	66

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	84	82	78
125 Hz _____	82	81	77
250 Hz _____	86	89	84
500 Hz _____	81	84	78
1000 Hz _____	78	76	71
2000 Hz _____	77	72	66
4000 Hz _____	76	72	66
8000 Hz _____	72	69	63

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	58	56	52
125 Hz _____	66	65	61
250 Hz _____	77	81	75
500 Hz _____	78	81	75
1000 Hz _____	78	76	71
2000 Hz _____	79	73	67
4000 Hz _____	77	73	67
8000 Hz _____	71	68	62

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

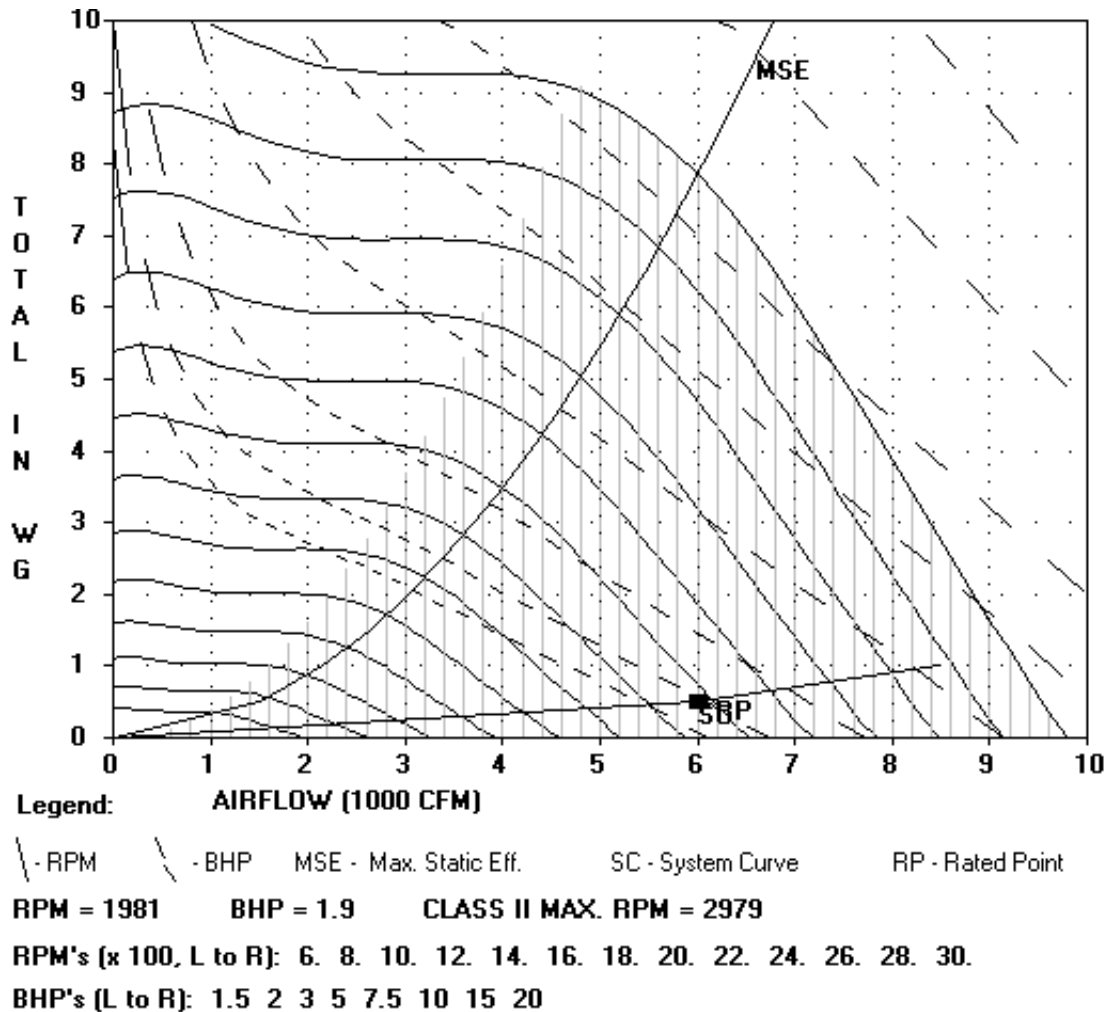
Sound contributed by Return Fan

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-4

Fan Model	39M1201HPDL
Unit Size	12W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	18.2
Fan Class	II
Static Efficiency (%)	25
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	6000
Site Altitude, , ft	0
Total Upstream Static Losses, in wg	0.50
Number of Fans	1
Calculated Fan RPM / Motor RPM	1981 / 1800
Class II Max. RPM	2979
Fan BHP	1.9
Fan Electrical Power, kW	1.6

Unit is outside of the scope of AHRI Standard 430/431.



Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-4

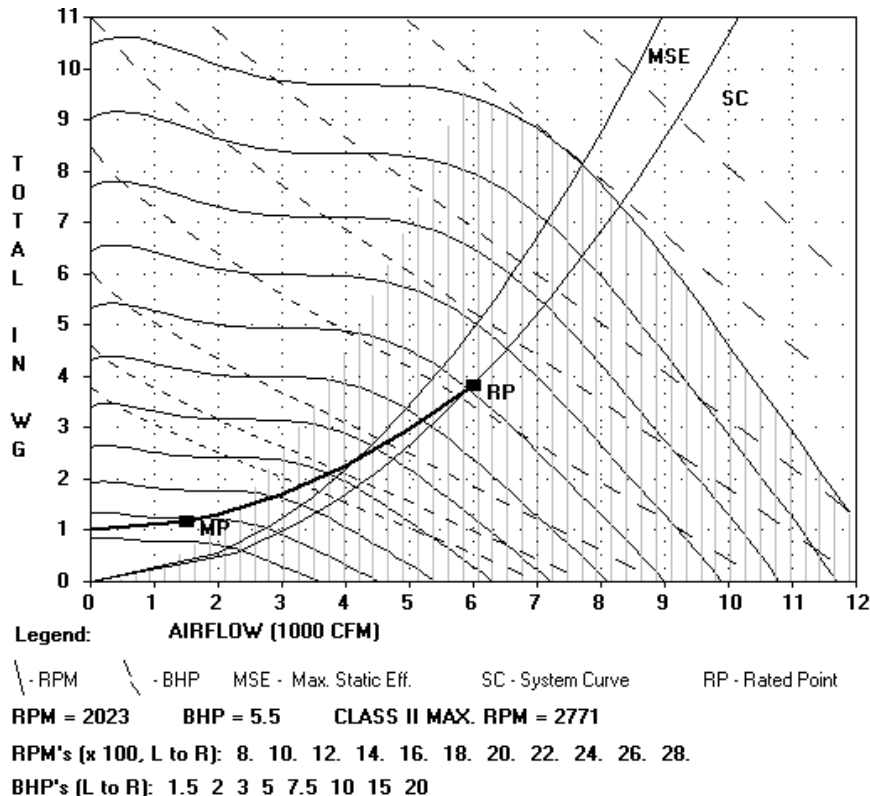
Fan Model	39M1201HPDL-D
Unit Size	12W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	20
Fan Class	II
Fan Application	Blow Thru
Orientation	Horizontal
Actual Airflow, CFM	6000
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	2.25
Cooling Coil Static, in wg	1.05
Heating Coil Static, in wg	0.20
Total Accessory Static, in wg	0.34
Total Static Pressure, in wg	3.84
Calculated Fan RPM / Motor RPM	2023 / 1800
Class II Max. RPM	2771
Static Efficiency (%)	66
Number of Fans	1
Fan BHP	5.5
Fan Electrical Power, kW	4.5



Accessories:

- (1) Flat Throwaway (2 in.) [0.22]
- (1) Mixing or Exhaust Box [0.12]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahrirectory.org



Unit width: 5'-8 11/16" (plus lifting lugs)
 Return Fan
 2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 2In. Flat Filter
 Qty (6) 16in. x 20in.
 Hot Water 1 Row 11 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Blow-Thru Supply Fan
 7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 3785.0 lbs.
 Upstream Corner Weight (each): 947.0 lbs.
 Downstream Corner Weight (each): 946.0 lbs.

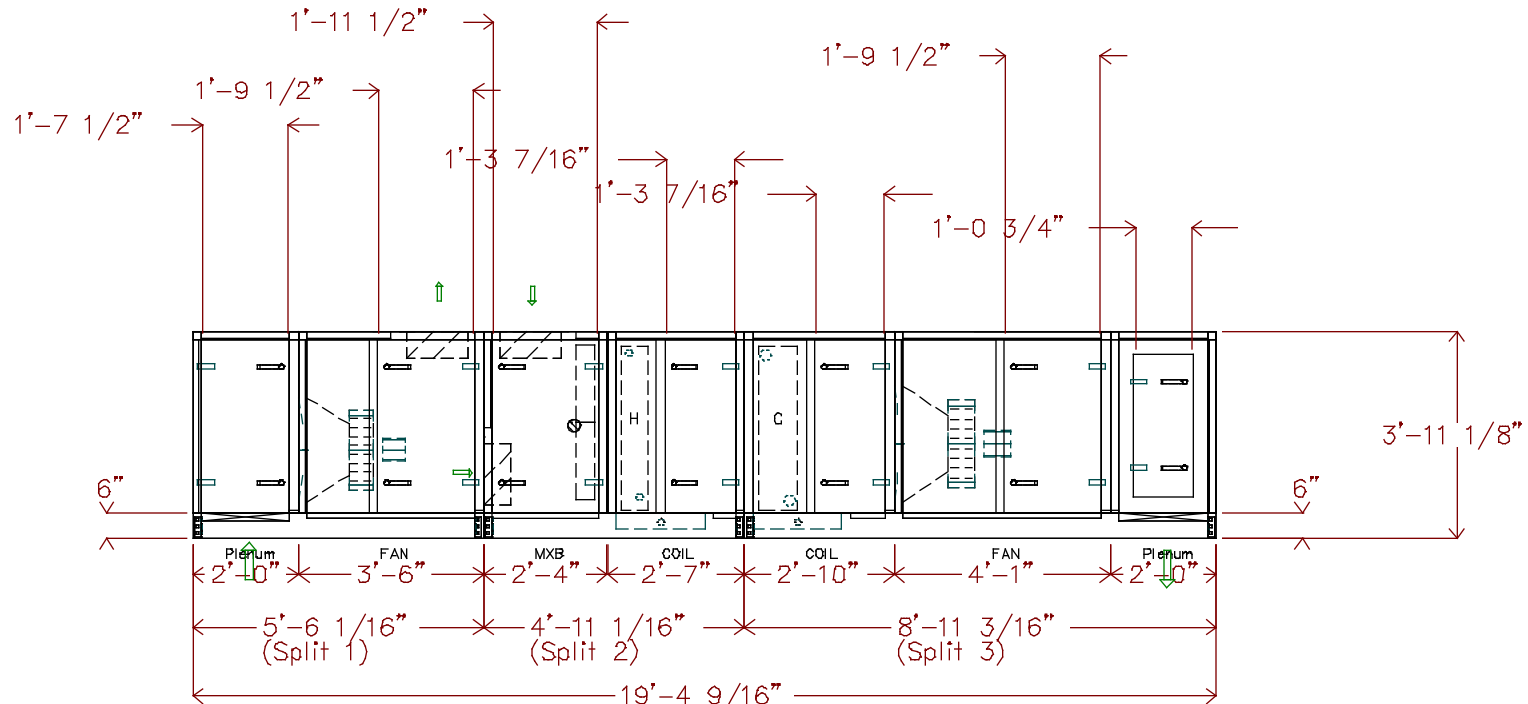


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Split	Airway Length	Weight (lbs.)
(Split 1)	5'-6 1/16"	977
(Split 2)	4'-11 1/16"	950
(Split 3)	8'-11 3/16"	1858



DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 12W CMS Hidden Valley, Grier, Newell: AHU-4 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	---------------------------

Unit viewed from right side of side elevation view.
 Unit length: 19'-4 9/16"
 Return Fan
 2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 2In. Flat Filter
 Qty (6) 16in. x 20in.
 Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

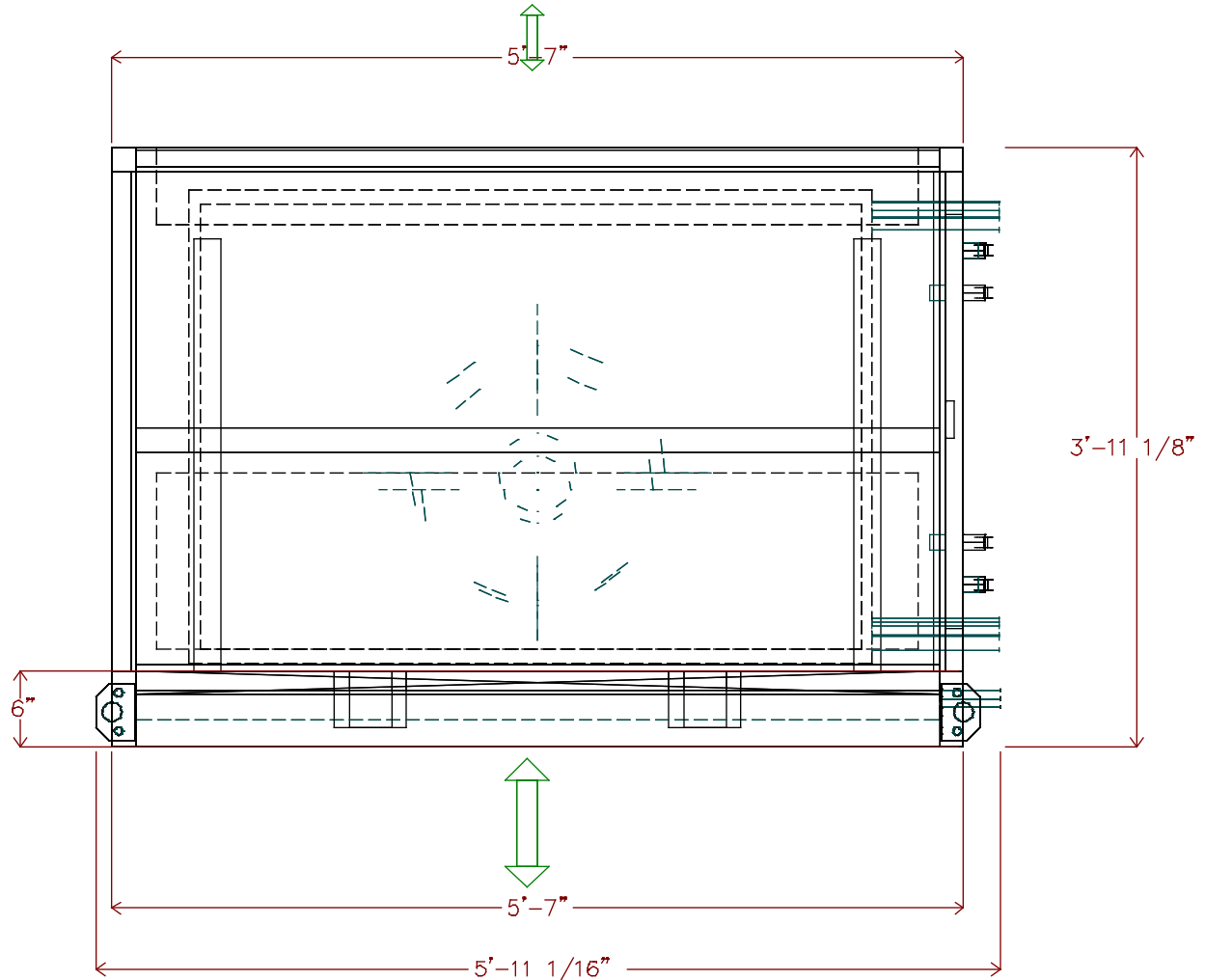
Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)
 Blow-Thru Supply Fan
 7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 3785.0 lbs.
 Upstream Corner Weight (each): 947.0 lbs.
 Downstream Corner Weight (each): 946.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-4
 Assembly Drawing

REVISION
End View

Unit height: 3'-11 1/8"

Return Fan

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

2in. Flat Filter

Qty (6) 16in. x 20in.

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Blow-Thru Supply Fan

7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 3785.0 lbs.

Upstream Corner Weight (each): 947.0 lbs.

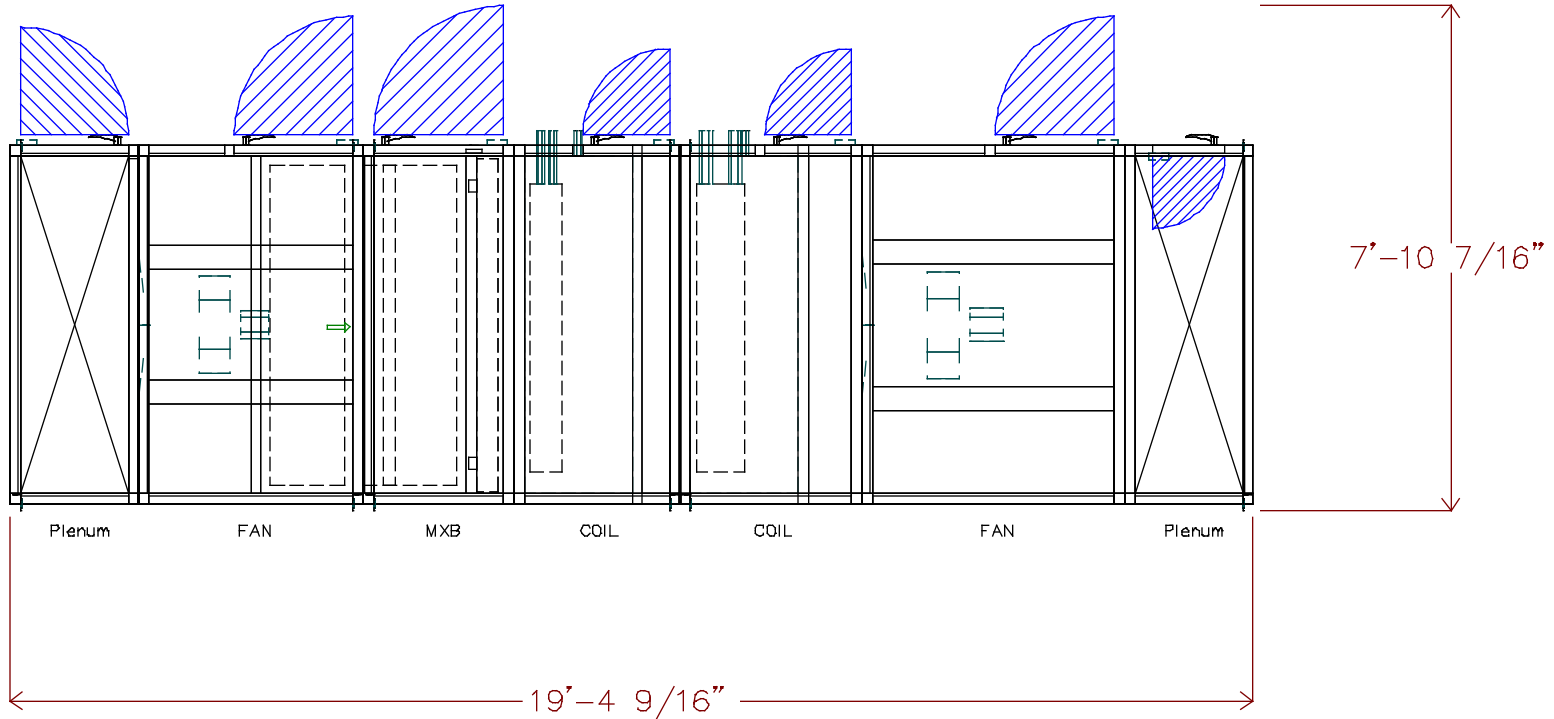
Downstream Corner Weight (each): 946.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-4
Assembly Drawing

REVISION
Top View

Unit height: 3'-11 1/8"

Return Fan

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

2In. Flat Filter

Qty (6) 16in. x 20in.

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

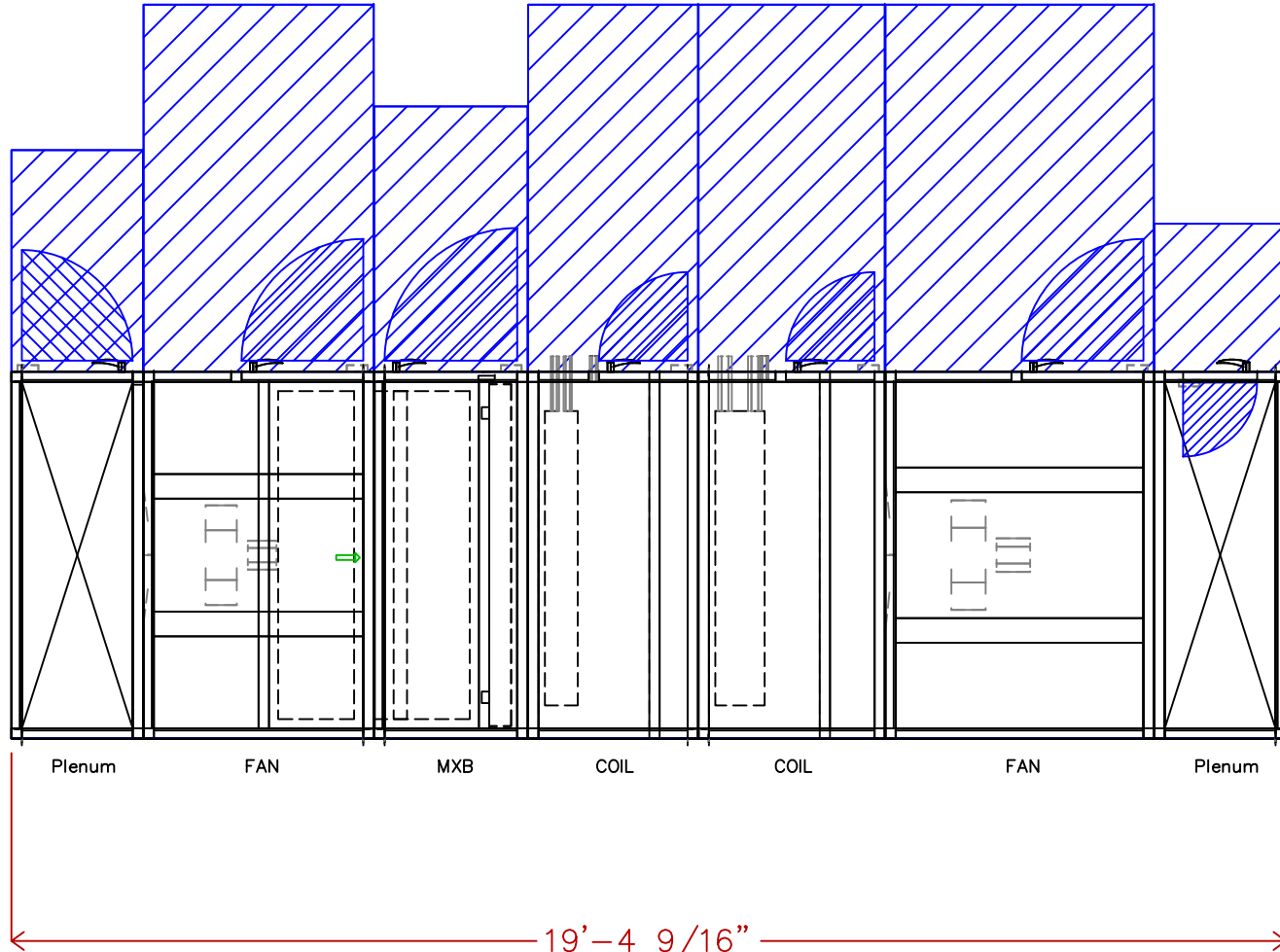
Blow-Thru Supply Fan

7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 3785.0 lbs.

Upstream Corner Weight (each): 947.0 lbs.

Downstream Corner Weight (each): 946.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M

DATE
4/27/2022

AHUBuilder
v6.69I

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-4
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

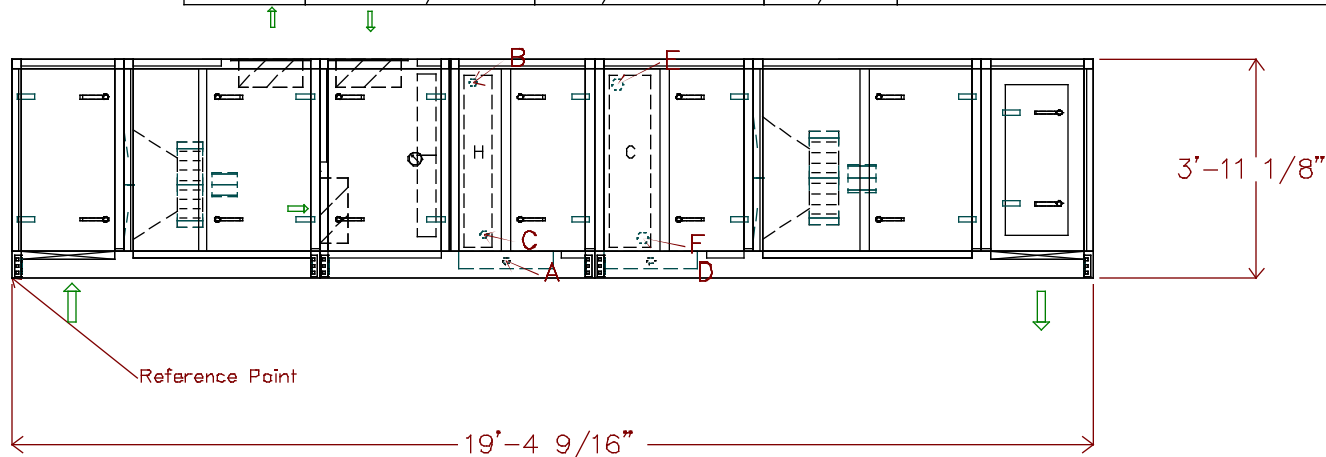


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	8'-10 5/16"	3 13/16"	1 1/2"	DrainPan
B	8'-3 3/16"	3'-6 3/16"	1 1/2"	HW Outlet
C	8'-5 1/2"	9 7/16"	1 1/2"	HW Inlet
D	11'-5 3/8"	3 13/16"	1 1/2"	DrainPan
E	10'-10 3/16"	3'-5 11/16"	2 1/2"	CW Outlet
F	11'-3 11/16"	8 11/16"	2 1/2"	CW Inlet



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-4
 Assembly Drawing

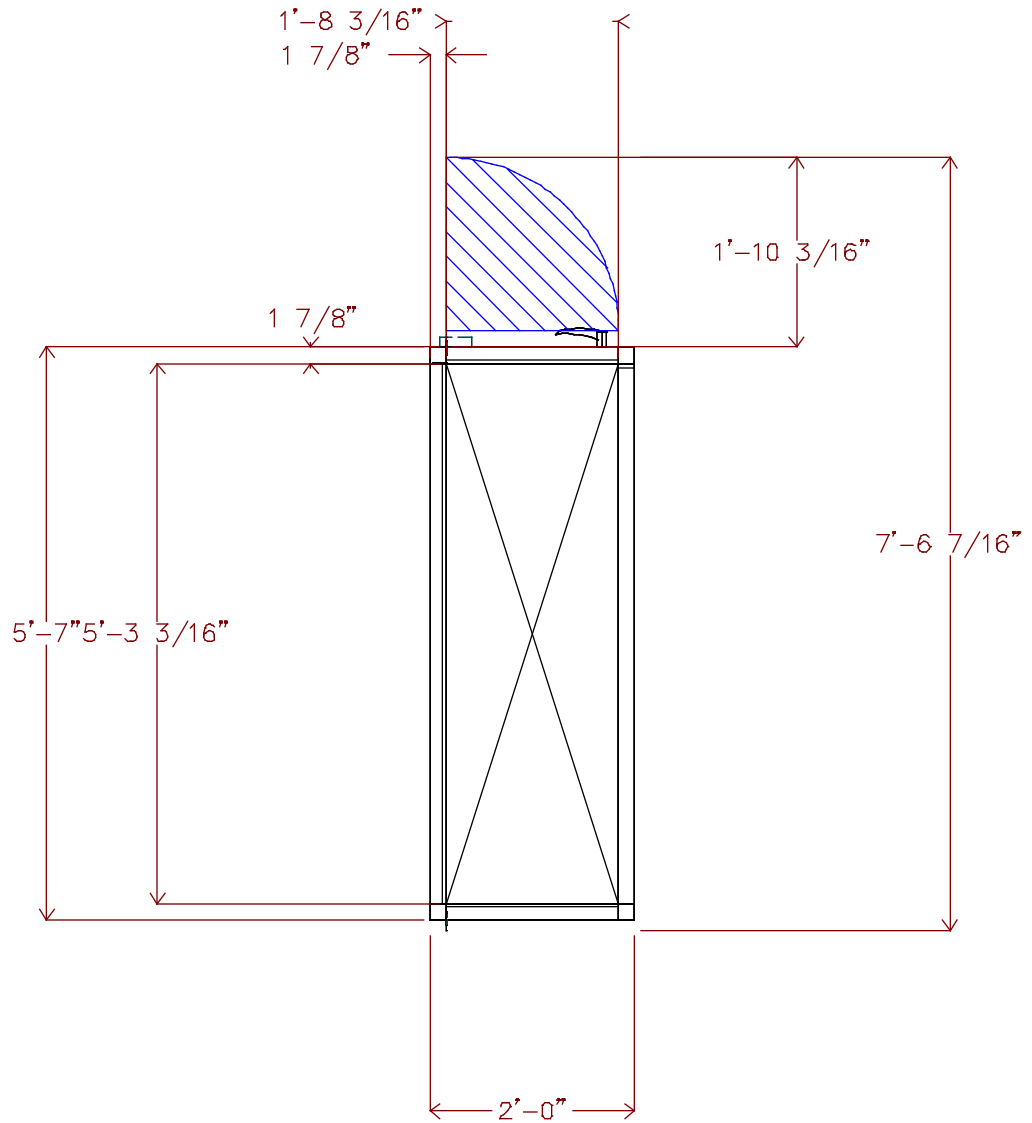
REVISION
Side View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-4
Turning Plenum

REVISION
Top View

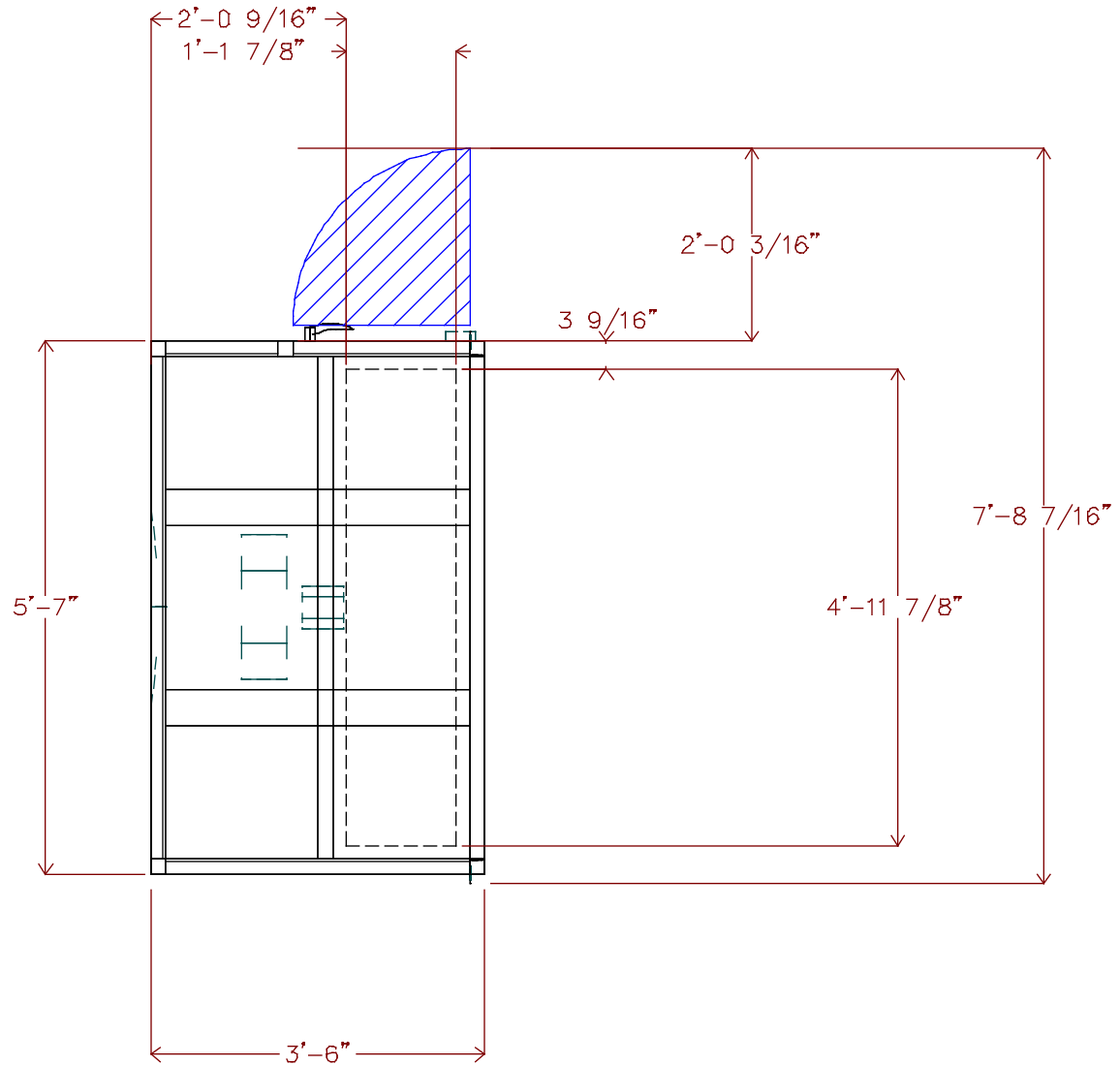
Return Fan
 2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

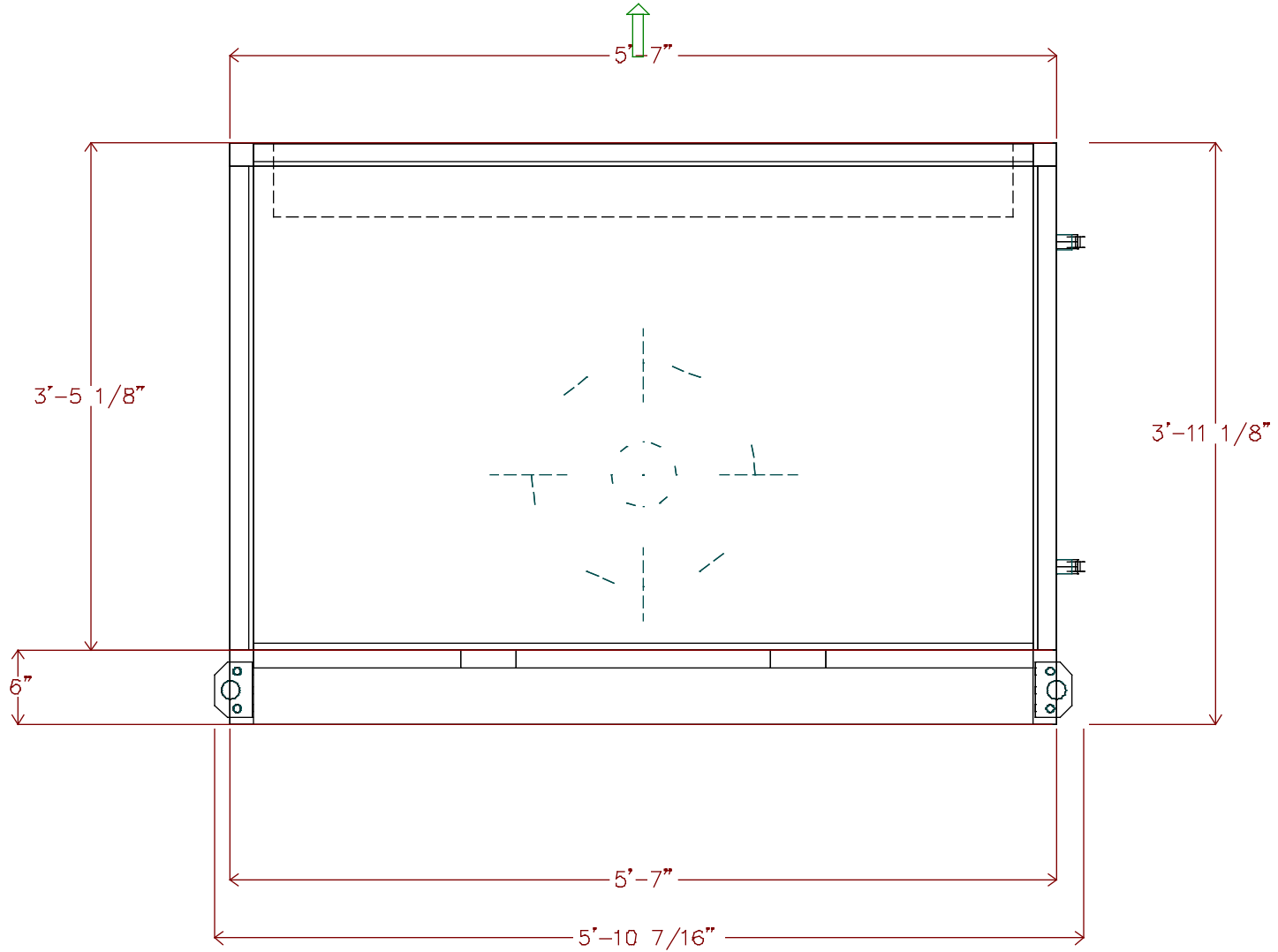
39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-4
 Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

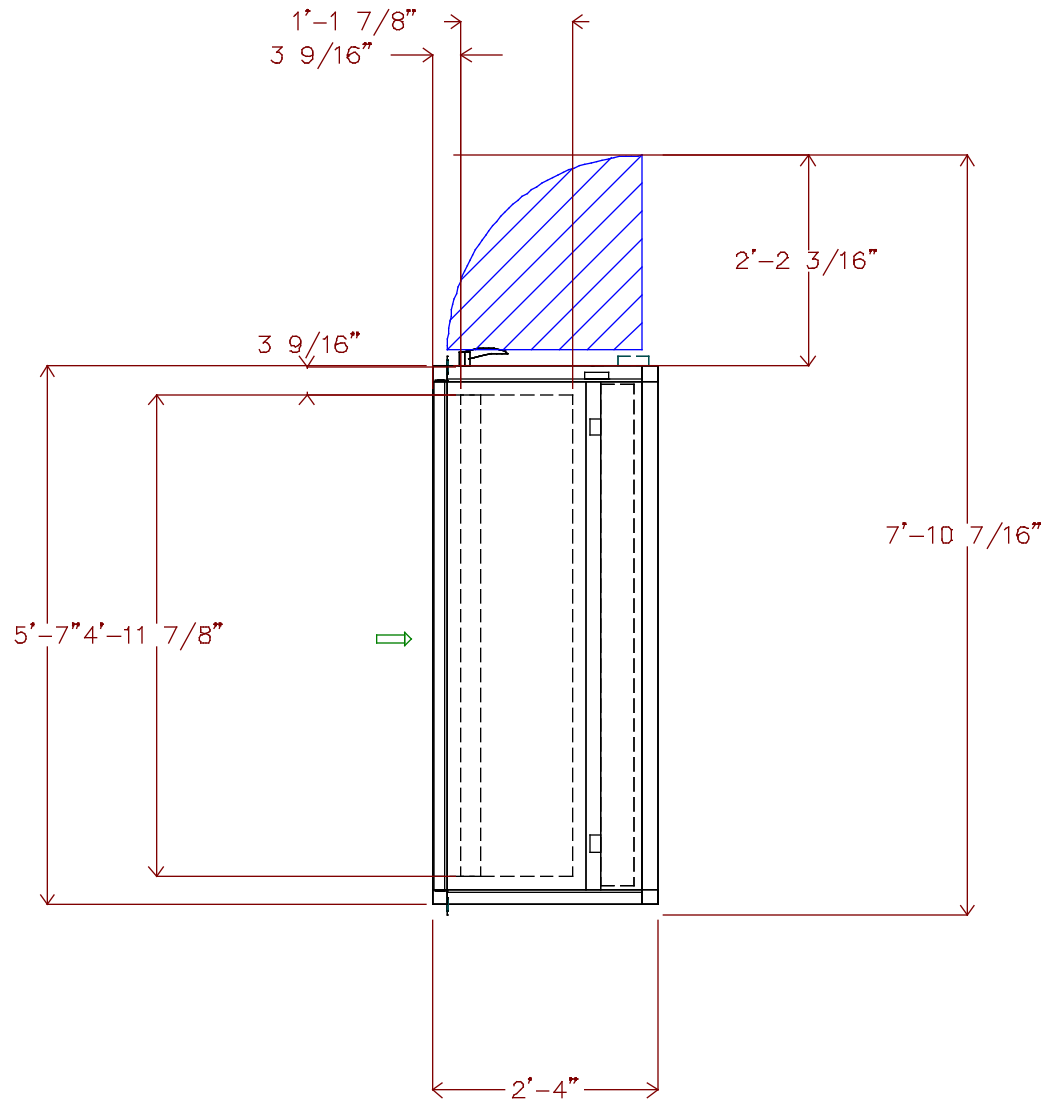
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-4
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (6) 16in. x 20in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

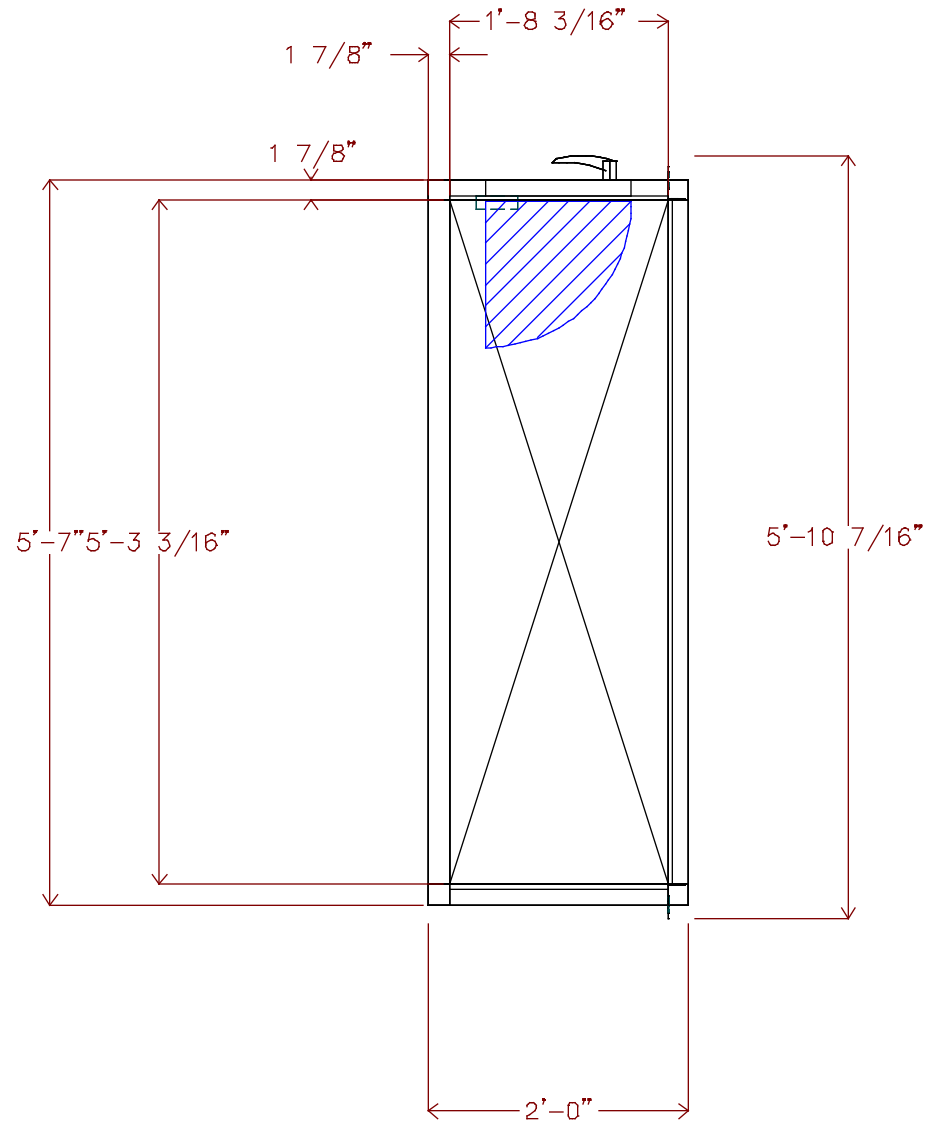
DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 12W CMS Hidden Valley, Grier, Newell: AHU-4 Filter Mixing Box	REVISION Top View
-------------------	----------------------	---	----------------------



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-4
Blow Thru Plenum Section

REVISION
Top View

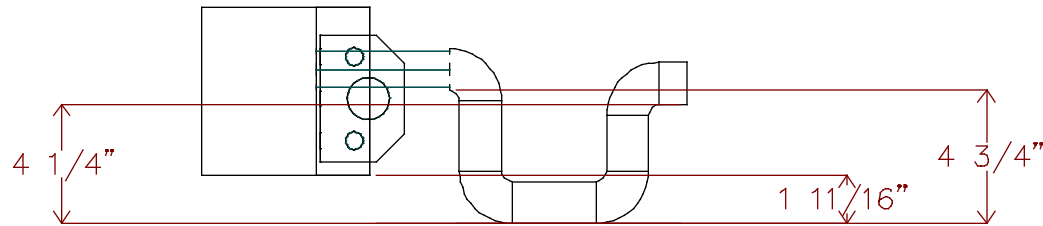


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

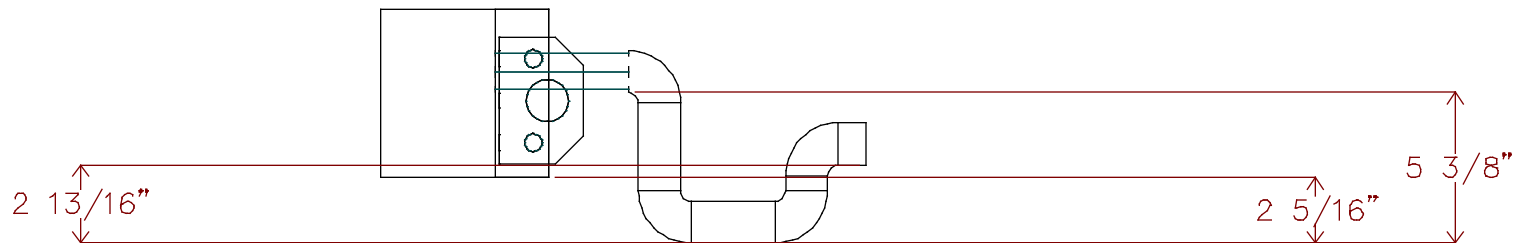
SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

BLOW-THRU



DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-4
Condensate Trap Dimensions

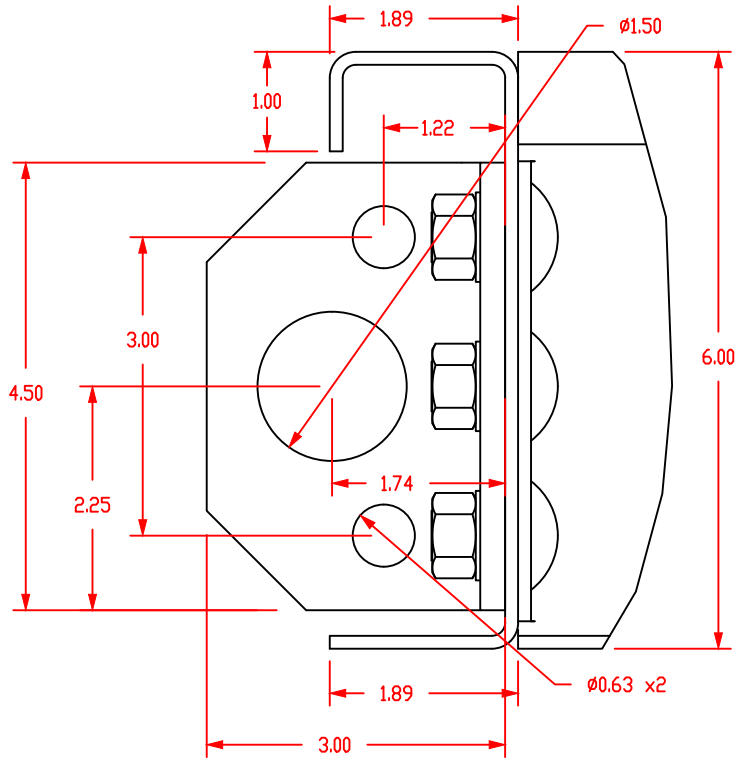
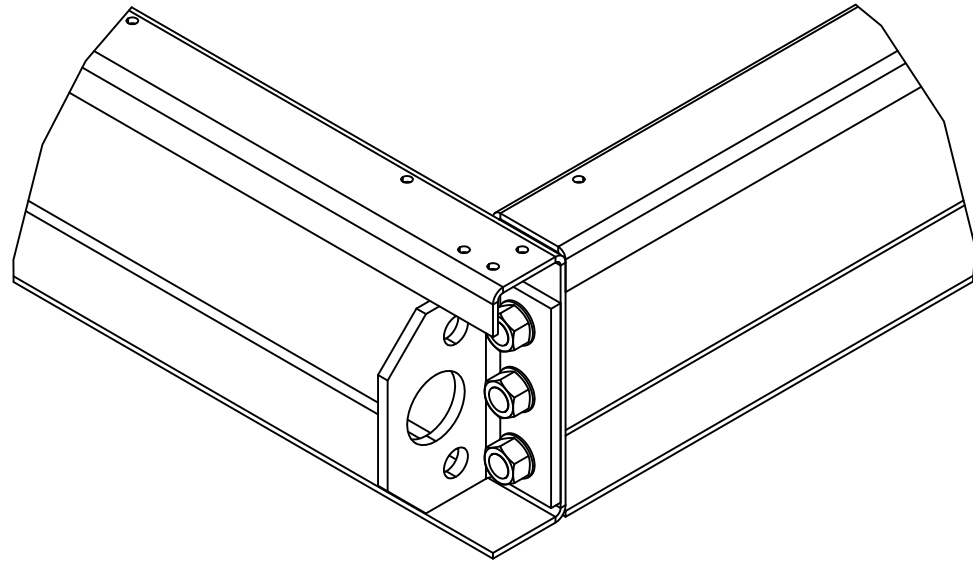
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

PERFORMANCE OR ACCEPTANCE OF CONTRACT DOCUMENTS DOES NOT CONSTITUTE PART OF THESE DRAWINGS OR CARRIER CORPORATION'S WRITTEN CONSENT

39M

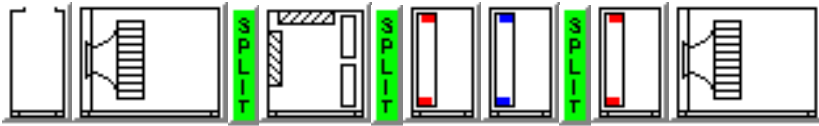


DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION



Unit Parameters

Aero Indoor Air Handler

39MN Size 30W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Top

Door Right Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan A PDLA01270

Direct Drive Fan

1239 fanRPM Class II

Full Open Discharge

Spring Fan Isolation

Motor Shaft Grounding

Motor

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 215T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 7.3

Efficiency - 89.5%

Door Right Side

Filter Mixing Box

Shipping Split After

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-5

Field Supplied 2in. MERV 8 Throwaway Filter

Construction Filters
Qty (10) 20in. x 24in.

Door Right Side

Minihelic Differential Pressure Gage 0-2" w.c. Right Side

Hot Water Coil and Plenum

304 Stainless Steel Drain Pan Right Side

Hot Water 30.35 sq.ft 1 Row 8 FPI Half Circuit

Coil Connection Right Side

1/2 in. Tube Diameter

Fin Thickness: 0.0060

AL fins Galv. Casing

Steel Header

No Coating

Door Right Side

Chilled Water Coil and Plenum

Shipping Split After

304 Stainless Steel Drain Pan Right Side

Chilled Water 30.35 sq.ft 8 Row 11 FPI Double Circuit

Coil Connection Right Side

1/2 in. Tube Diameter

Fin Thickness: 0.0060

AL fins Galv. Casing

Steel Header

No Coating

Door Right Side

Hot Water Coil and Plenum

304 Stainless Steel Drain Pan Right Side

Hot Water 30.35 sq.ft 1 Row 8 FPI Half Circuit

Coil Connection Right Side

1/2 in. Tube Diameter

Fin Thickness: 0.0060

AL fins Galv. Casing

Steel Header

No Coating

Door Right Side

Draw-Thru Supply Fan

Rear Inlet

Fan Sled
Plenum Fan B PDLA01222
Direct Drive Fans

Fan Count 2

1590 fanRPM Class II

Field Supplied Discharge
Backdraft Dampers
Spring Fan Isolation
Motor Shaft Grounding

Motor

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 215T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 7.3 (Each)

Efficiency - 89.5%

Door Right Side

Configuration Notes

Preheat coil configurations can cause freeze stat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

Backdraft dampers are close to door(s). Ensure adequate access exists.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Weights and Dimensions

(LxWxH in ft in) 23' 7" x 8' 9" x 5' 0" **

Operating 7632 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 Each Additional 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 21 - 30

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.
All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell

Tag: AHU-5

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
8 / 11 / DB
.0060 in
Sine Wave
Large
30.35 sqft
411.9 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
Actual Airflow **12500** CFM
 Site Altitude **0** ft
 Standard Airflow (adj. to std. dry atmosphere) **12053** SCFM
 Total Cooling Capacity **571.78** MBH
 Sensible Cooling Capacity **383.49** MBH
Fluid Flow Rate **94.5** gpm
Fluid Pressure Drop **3.8** ft wg
 Fluid Velocity **2.1** ft/s
 Entering Fluid Temperature **44.00** F
 Leaving Fluid Temperature **56.06** F
 Fluid Temperature Rise **12.1** F
 Entering Air Dry Bulb **80.00** F
 Entering Air Wet Bulb **67.00** F
 Entering Air Enthalpy **31.50** BTU/lb
 Leaving Air Dry Bulb **51.06** F
 Leaving Air Wet Bulb **51.05** F
 Leaving Air Enthalpy **20.9** BTU/lb
 Air Friction **0.86** in wg
 Brine **FW**
 Brine Concentration **0** %
 Fouling Factor **0.0** (hr-sqft-F)/BTU



Actual Airflow	12500	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	12053	SCFM
Total Cooling Capacity	571.78	MBH
Sensible Cooling Capacity	383.49	MBH
Fluid Flow Rate	94.5	gpm
Fluid Pressure Drop	3.8	ft wg
Fluid Velocity	2.1	ft/s
Entering Fluid Temperature	44.00	F
Leaving Fluid Temperature	56.06	F
Fluid Temperature Rise	12.1	F
Entering Air Dry Bulb	80.00	F
Entering Air Wet Bulb	67.00	F
Entering Air Enthalpy	31.50	BTU/lb
Leaving Air Dry Bulb	51.06	F
Leaving Air Wet Bulb	51.05	F
Leaving Air Enthalpy	20.9	BTU/lb
Air Friction	0.86	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-5

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 8 / HF
.0060 in
Sine Wave
Large
30.35 sqft
411.9 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow	12500	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	12619	SCFM
Heating Capacity	235.53	MBH
Fluid Flow Rate	10.2	gpm
Fluid Pressure Drop	0.4	ft wg
Fluid Velocity	0.9	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	112.82	F
Fluid Temperature Drop	47.2	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	82.07	F
Air Friction	0.14	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-5

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 8 / HF
.0060 in
Sine Wave
Large
30.35 sqft
411.9 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow	12500	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	12619	SCFM
Heating Capacity	257.65	MBH
Fluid Flow Rate	12.7	gpm
Fluid Pressure Drop	0.5	ft wg
Fluid Velocity	1.1	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	118.56	F
Fluid Temperature Drop	41.4	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	83.67	F
Air Friction	0.14	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

REHEAT

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-5

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	95	89	87
125 Hz _____	89	89	85
250 Hz _____	96	91	86
500 Hz _____	88	85	82
1000 Hz _____	86	78	75
2000 Hz _____	84	77	73
4000 Hz _____	83	76	72
8000 Hz _____	86	76	72

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	69	63	61
125 Hz _____	73	73	69
250 Hz _____	87	82	78
500 Hz _____	84	82	79
1000 Hz _____	86	78	75
2000 Hz _____	85	78	74
4000 Hz _____	84	77	73
8000 Hz _____	85	75	71

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	89	86	82
125 Hz _____	86	88	83
250 Hz _____	88	90	84
500 Hz _____	82	82	77
1000 Hz _____	81	74	69
2000 Hz _____	79	74	68
4000 Hz _____	76	72	66
8000 Hz _____	74	69	64

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	63	60	56
125 Hz _____	70	72	67
250 Hz _____	80	81	76
500 Hz _____	79	79	74
1000 Hz _____	81	74	69
2000 Hz _____	80	75	70
4000 Hz _____	77	73	67
8000 Hz _____	73	68	63

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

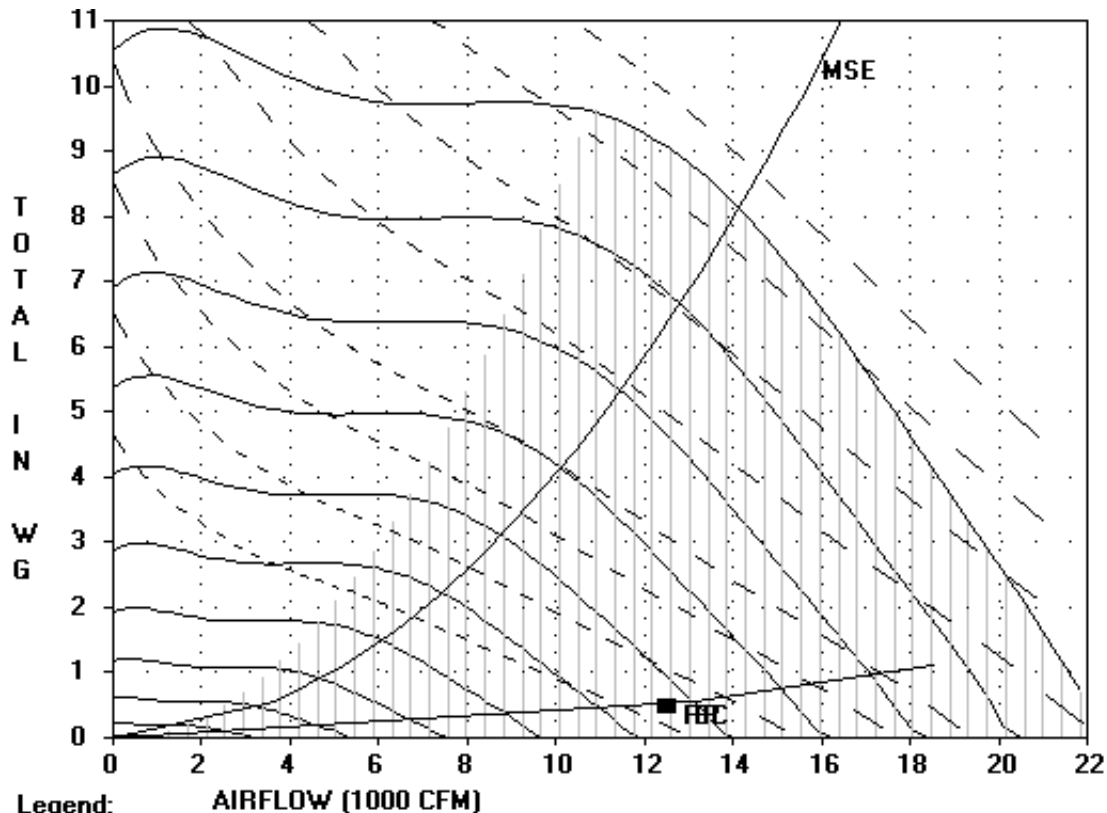
Sound contributed by Supply and Return Fans

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-5

Fan Model	39M3001HPDL
Unit Size	30W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	27
Fan Class	II
Static Efficiency (%)	26
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	12500
Site Altitude, , ft	0
Total Upstream Static Losses, in wg	0.50
Number of Fans	1
Calculated Fan RPM / Motor RPM	1239 / 1200
Class II Max. RPM	2035
Fan BHP	3.8
Fan Electrical Power, kW	3.1

Unit is outside of the scope of AHRI Standard 430/431.



Legend:

AIRFLOW (1000 CFM)

- RPM
- BHP
MSE - Max. Static Eff.
SC - System Curve
RP - Rated Point

RPM = 1239 BHP = 3.8 CLASS II MAX. RPM = 2035

RPM's (x 100, L to R): 1. 3. 5. 7. 9. 11. 13. 15. 17. 19. 21.

BHP's (L to R): 3 5 7.5 10 15 20 25 30

Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-5

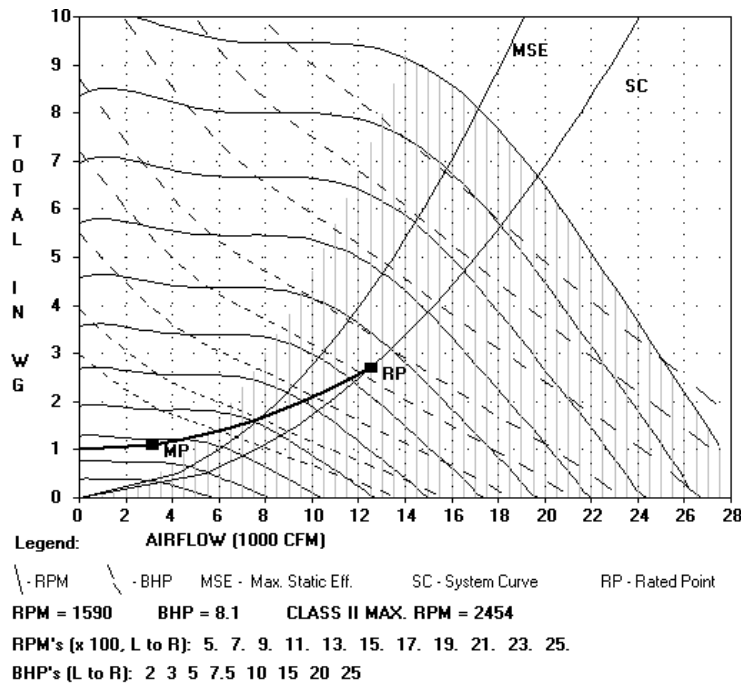
Fan Model	39M3002HPDL-U
Unit Size	30W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	22.2
Fan Class	II
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	12500
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	1.00
Cooling Coil Static, in wg	0.86
Heating Coil Static, in wg	0.27
Backdraft Damper Losses, in wg	0.14
Total Accessory Static, in wg	0.43
Total Static Pressure, in wg	2.70
Calculated Fan RPM / Motor RPM	1590 / 1200
Class II Max. RPM	2454
Static Efficiency (%)	62
Number of Fans	2
Each Fan BHP	4.1
Fan Total BHP	8.1
(n-1) Airflow, CFM	9421
(n-1) Redundancy (%)	75
Fan Electrical Power, kW	6.8



Accessories:

- (1) Flat Throwaway (2 in.), Dirty [0.33]
- (1) Mixing or Exhaust Box [0.10]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahridirectory.org

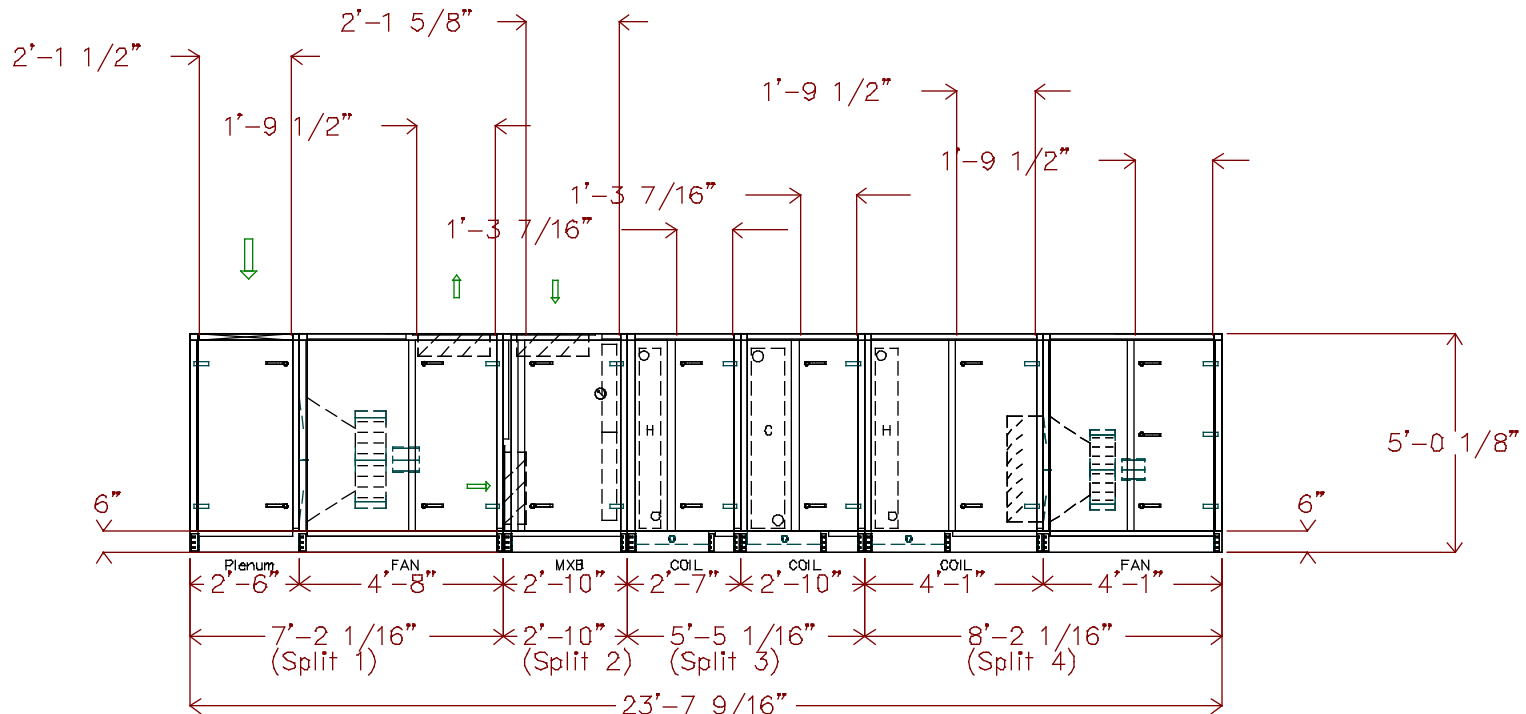


Unit width: 8'-9 11/16" (plus lifting lugs)
 Return Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (10) 20in. x 24in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 11 FPI Double Circuit (qty. 1)

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Draw-Thru Supply Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 Operating weight: 7632.0 lbs.
 Upstream Corner Weight (each): 1820.0 lbs.
 Downstream Corner Weight (each): 1996.0 lbs.



Split	Airway Length	Weight (lbs.)
(Split 1)	7'-2 1/16"	1910
(Split 2)	2'-10"	1062
(Split 3)	5'-5 1/16"	2220
(Split 4)	8'-2 1/16"	2441



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

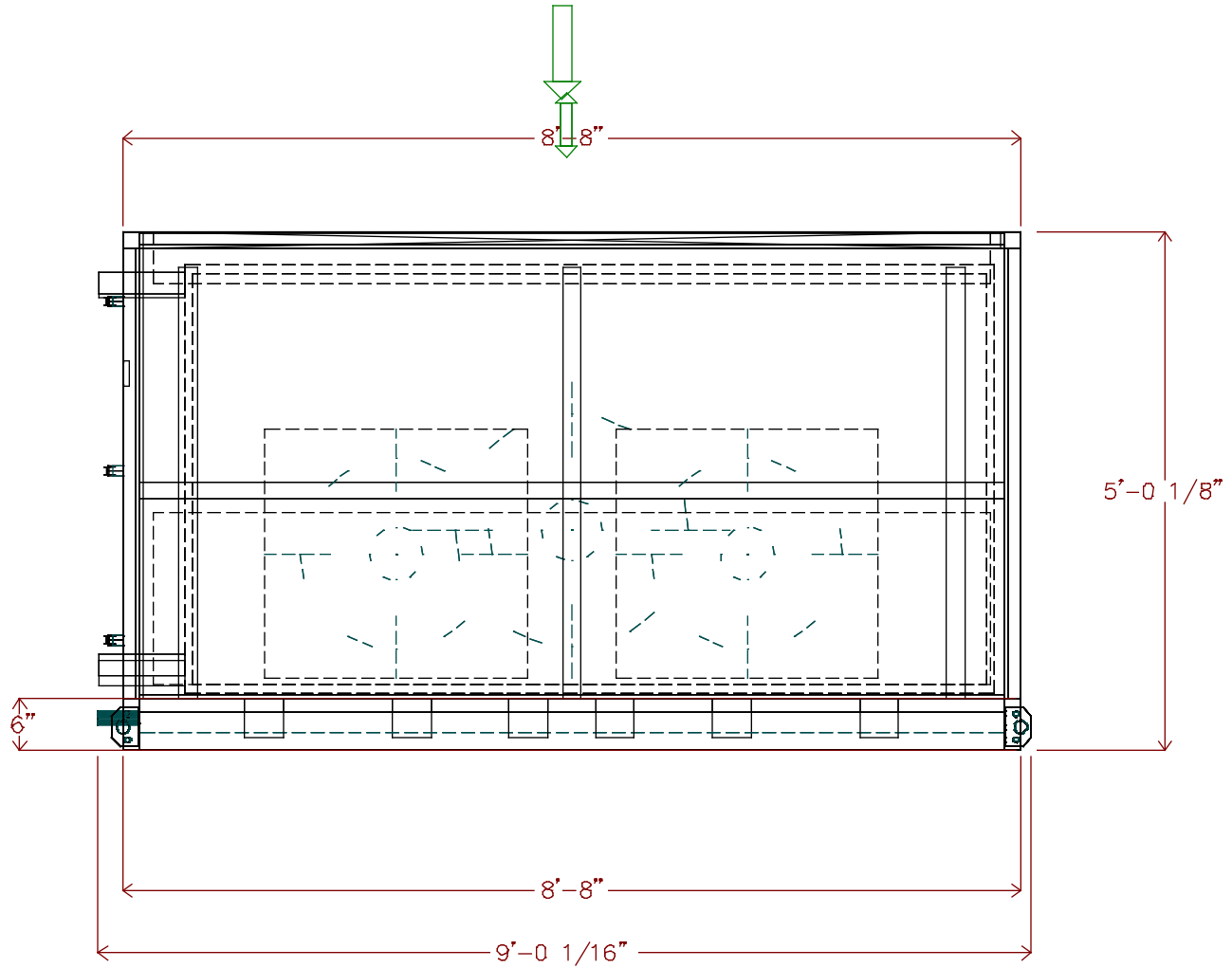
SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 30W CMS Hidden Valley, Grier, Newell: AHU-5 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	---------------------------

Unit viewed from right side of side elevation view.
 Unit length: 23'-7 9/16"
 Return Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (10) 20in. x 24in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 11 FPI Double Circuit (qty. 1)

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Draw-Thru Supply Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 Operating weight: 7632.0 lbs.
 Upstream Corner Weight (each): 1820.0 lbs.
 Downstream Corner Weight (each): 1996.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 30W CMS Hidden Valley, Grier, Newell: AHU-5 Assembly Drawing	REVISION End View
-------------------	----------------------	--	--------------------------

Unit height: 5'-0 7/8"

Return Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 11 FPI Double Circuit (qty. 1)

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Draw-Thru Supply Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 7632.0 lbs.

Upstream Corner Weight (each): 1820.0 lbs.

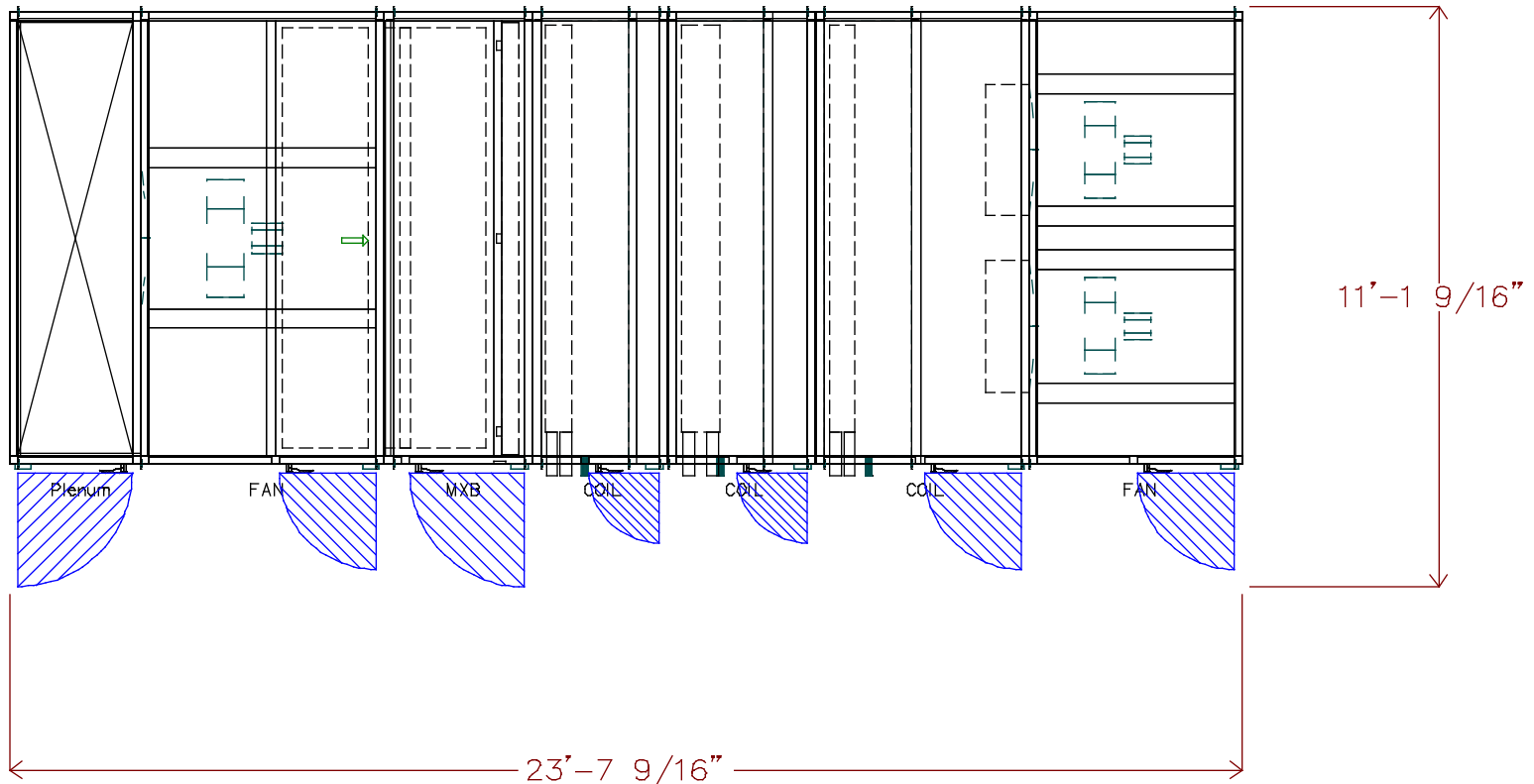
Downstream Corner Weight (each): 1996.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-5
Assembly Drawing

REVISION
Top View

Unit height: 5'-0 7/8"

Return Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 11 FPI Double Circuit (qty. 1)

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Draw-Thru Supply Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 7632.0 lbs.

Upstream Corner Weight (each): 1820.0 lbs.

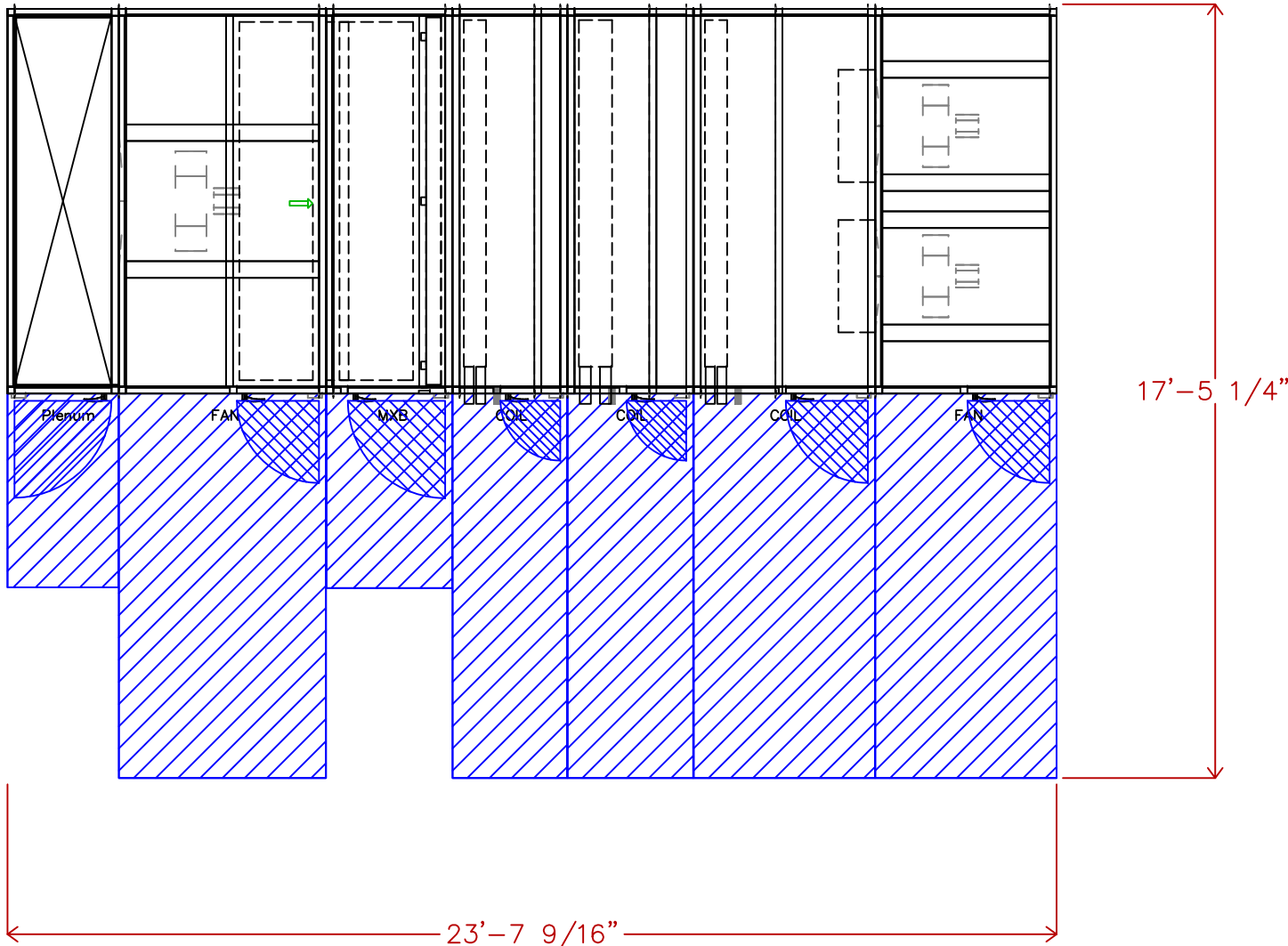
Downstream Corner Weight (each): 1996.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



DATE
4/27/2022

AHUBuilder
v6.69I

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-5
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 11 FPI Double Circuit (qty. 1)
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

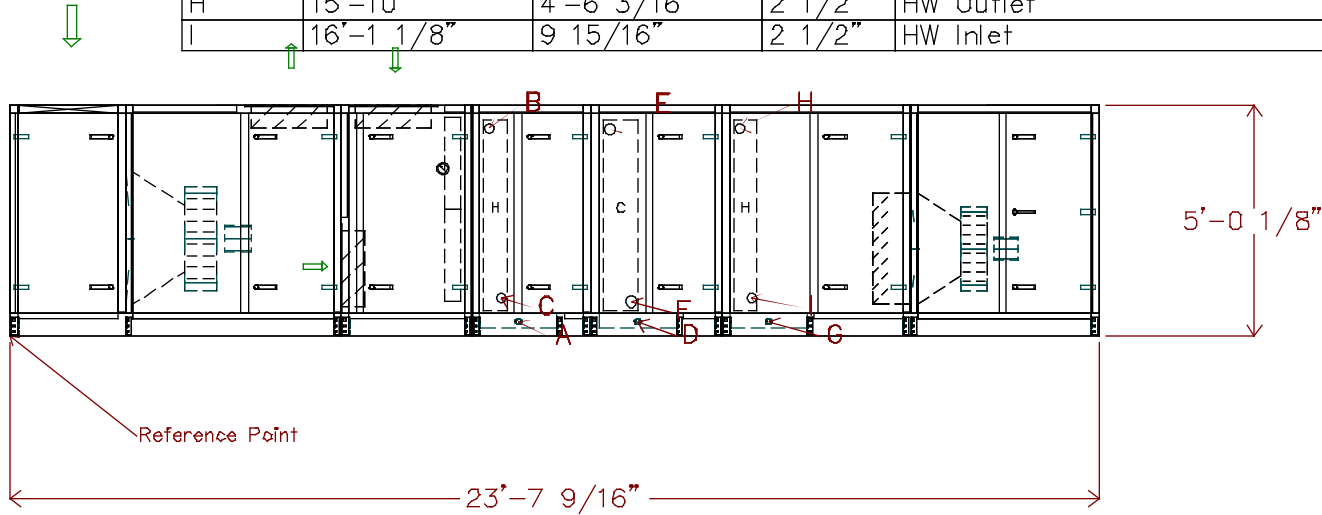


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	11'-0 5/16"	3 13/16"	1 1/2"	DrainPan
B	10'-4 3/4"	4'-6 3/16"	2 1/2"	HW Outlet
C	10'-7 15/16"	9 15/16"	2 1/2"	HW Inlet
D	13'-7 3/8"	3 13/16"	1 1/2"	DrainPan
E	13'-0 3/16"	4'-5 15/16"	3"	CW Outlet
F	13'-5 11/16"	9"	3"	CW Inlet
G	16'-5 1/2"	3 13/16"	1 1/2"	DrainPan
H	15'-10"	4'-6 3/16"	2 1/2"	HW Outlet
I	16'-1 1/8"	9 15/16"	2 1/2"	HW Inlet



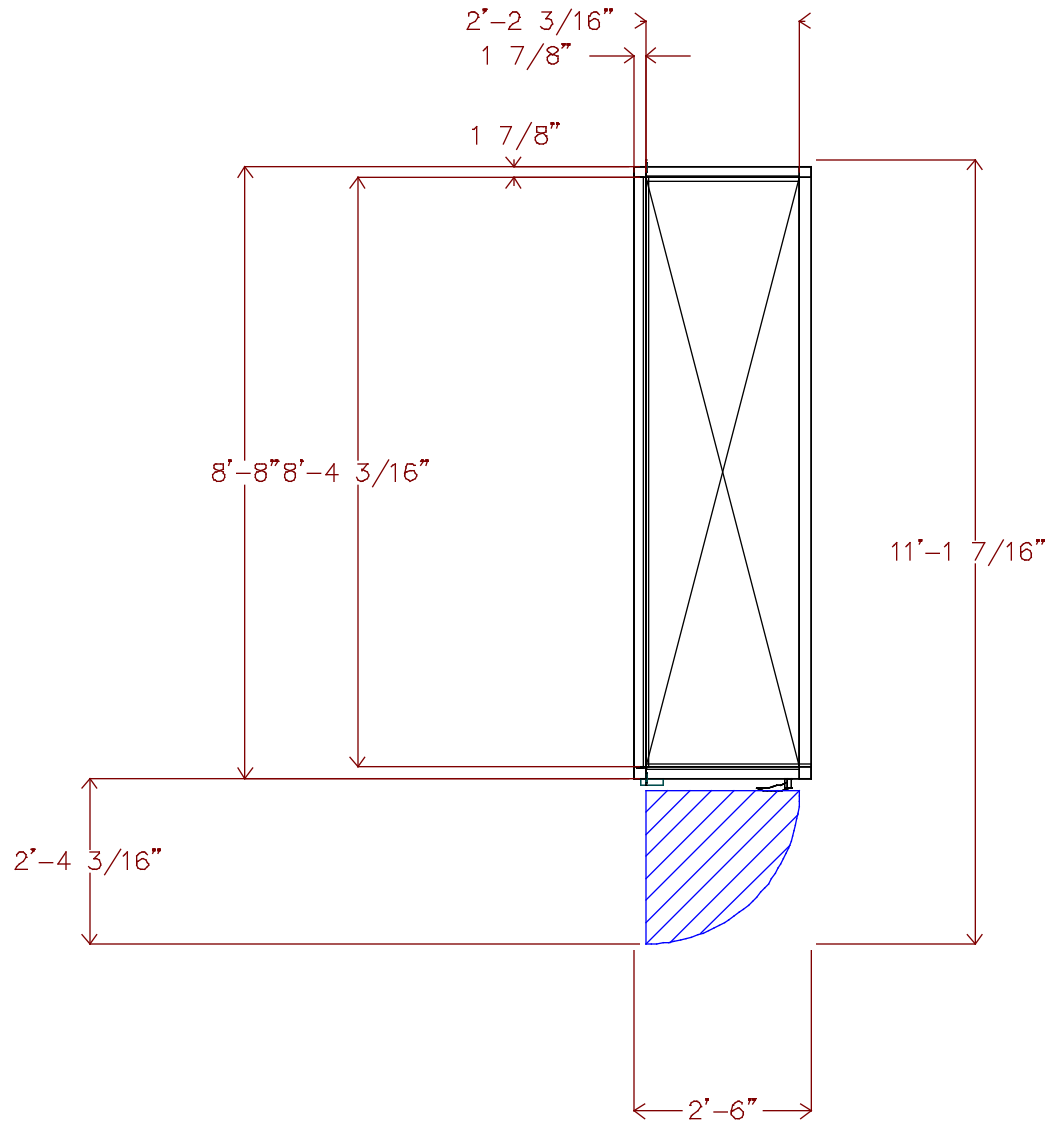
DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 30W CMS Hidden Valley, Grier, Newell: AHU-5 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	---------------------------



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-5
Turning Plenum

REVISION
Top View

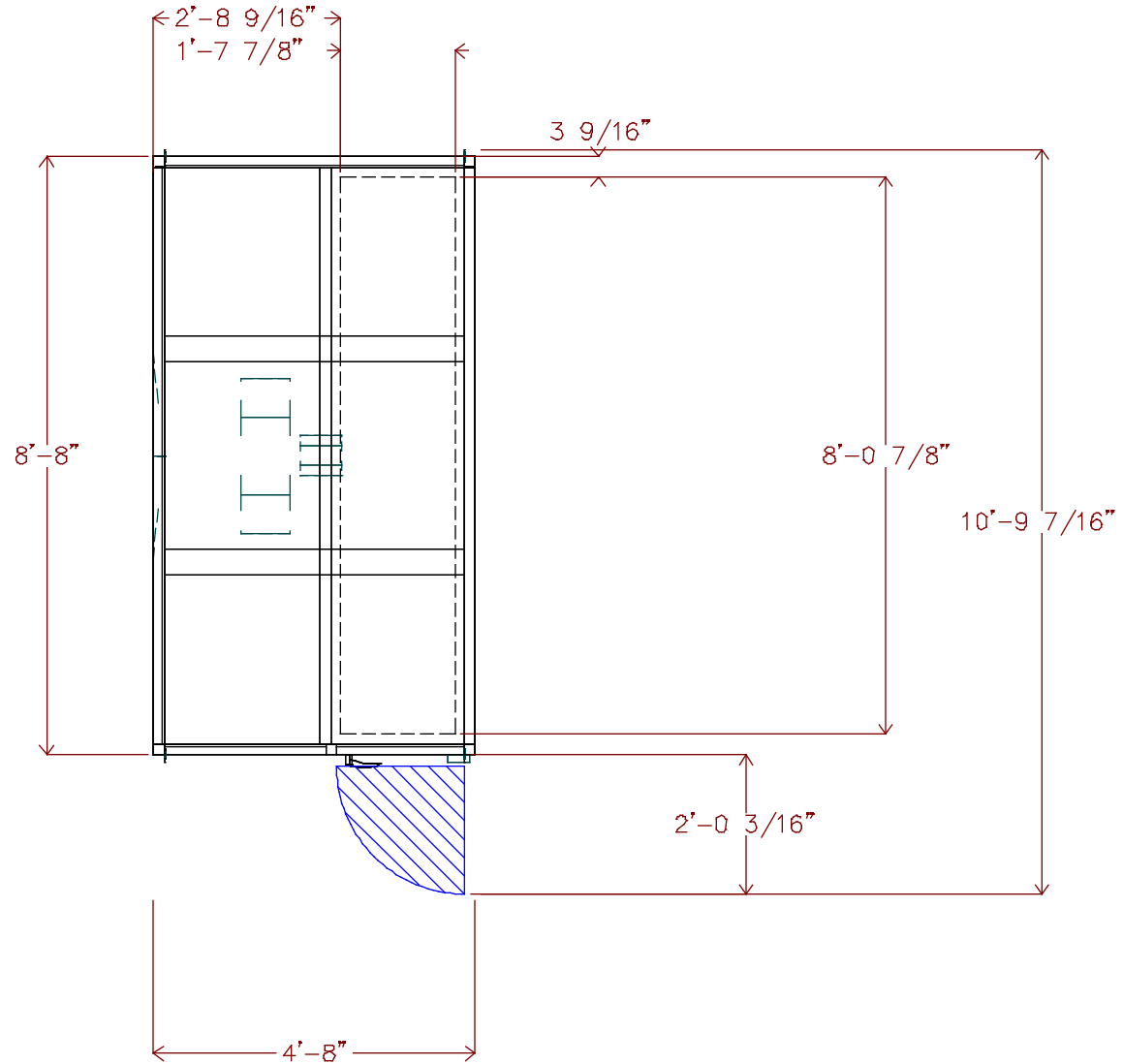
Return Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

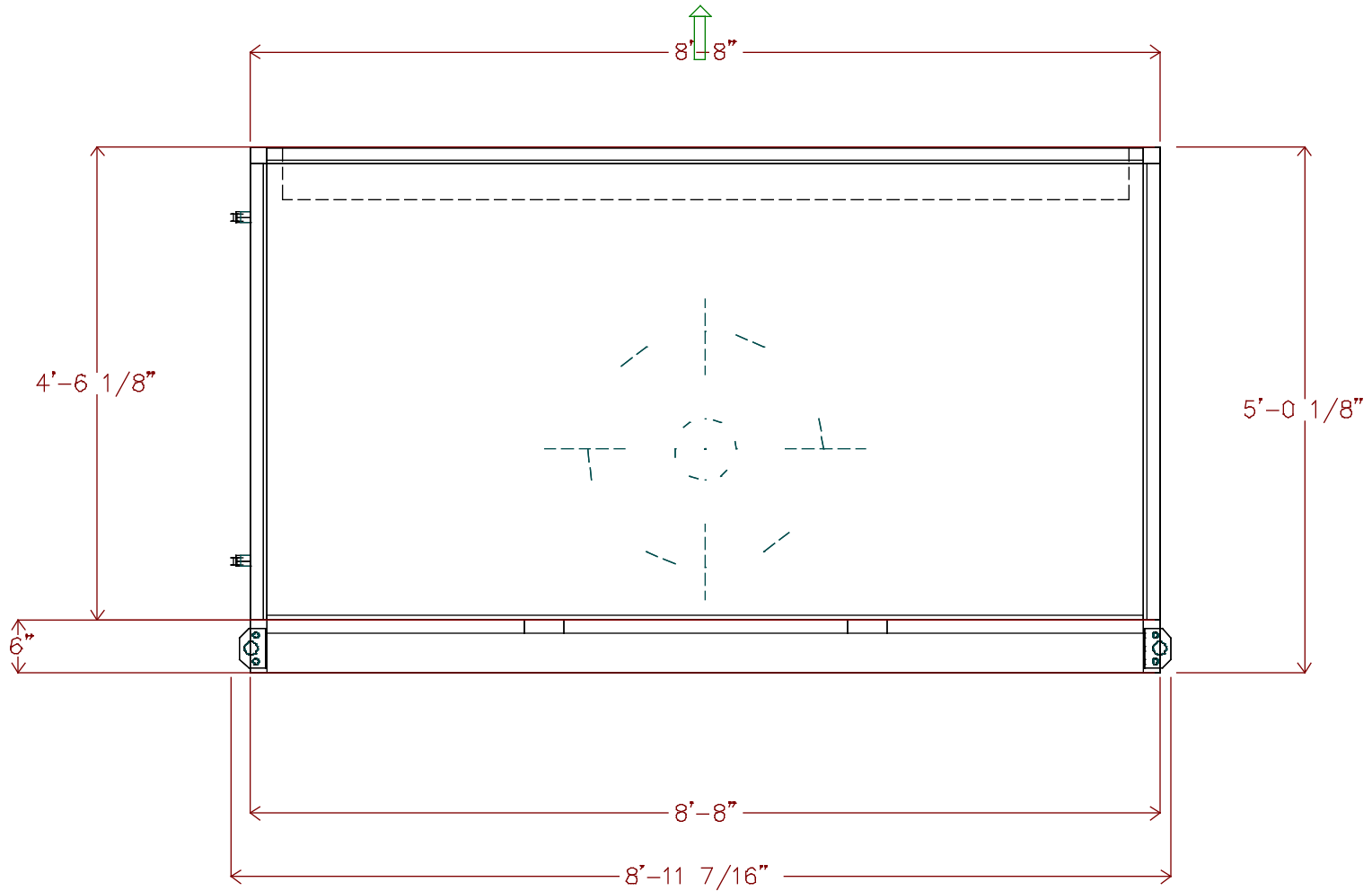
39M Central Station Air-Handler, Size 30W
 CMS Hidden Valley, Grier, Newell: AHU-5
 Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

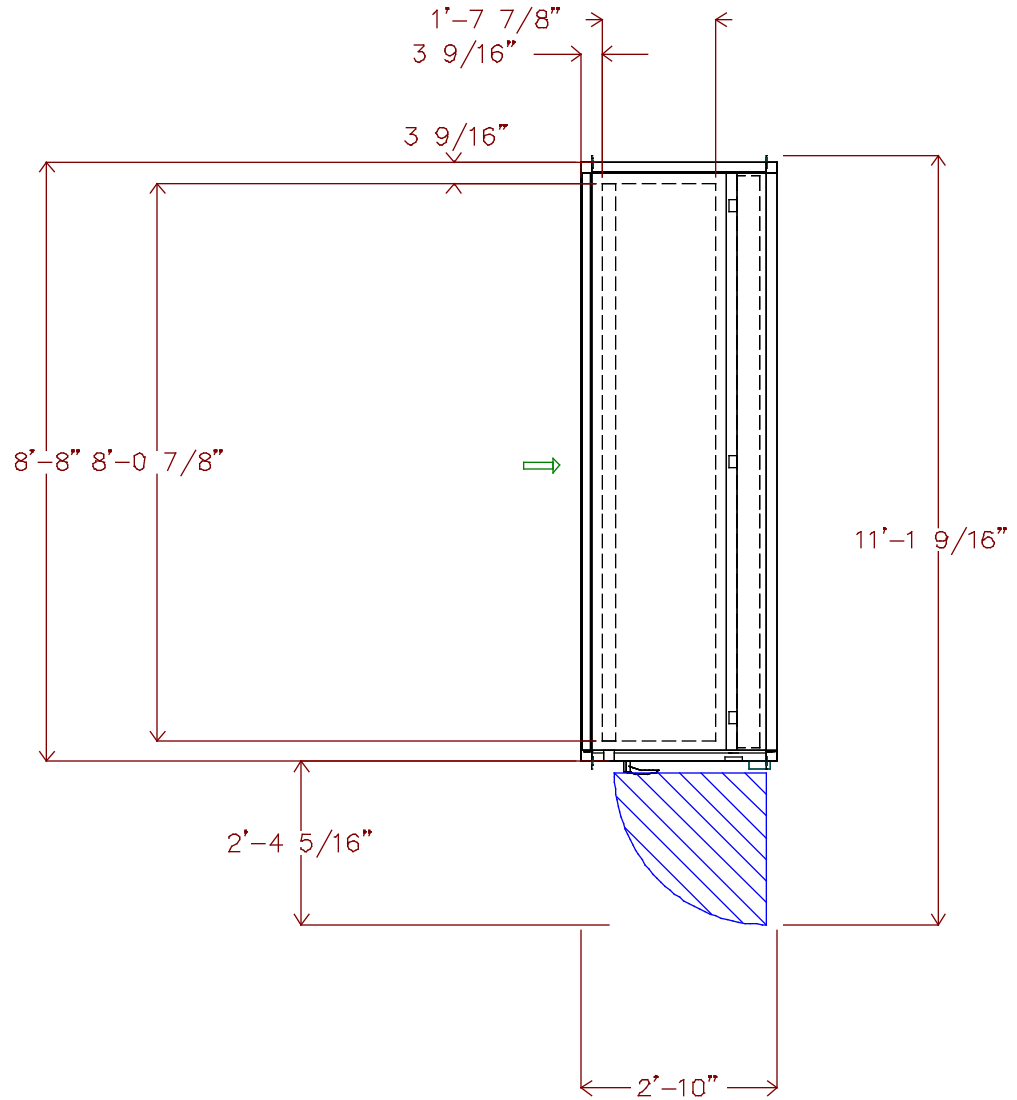
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-5
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (10) 20in. x 24in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
 5/27/2022

AHUBuilder
 v6.69m

39M Central Station Air-Handler, Size 30W
 CMS Hidden Valley, Grier, Newell: AHU-5
 Filter Mixing Box

REVISION
 Top View

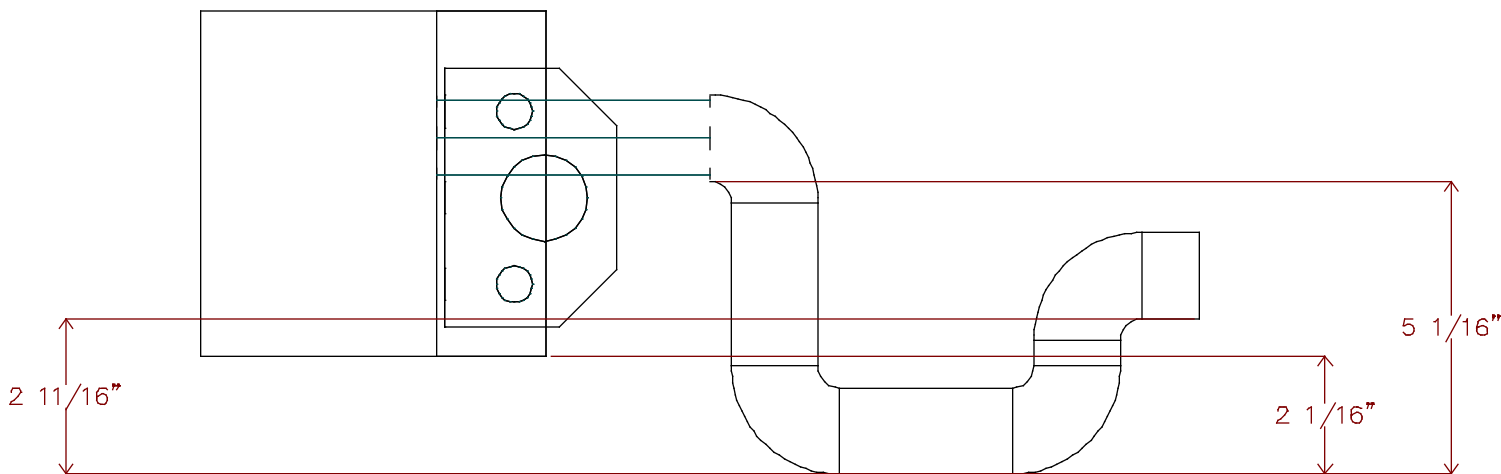


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-5
Condensate Trap Dimensions

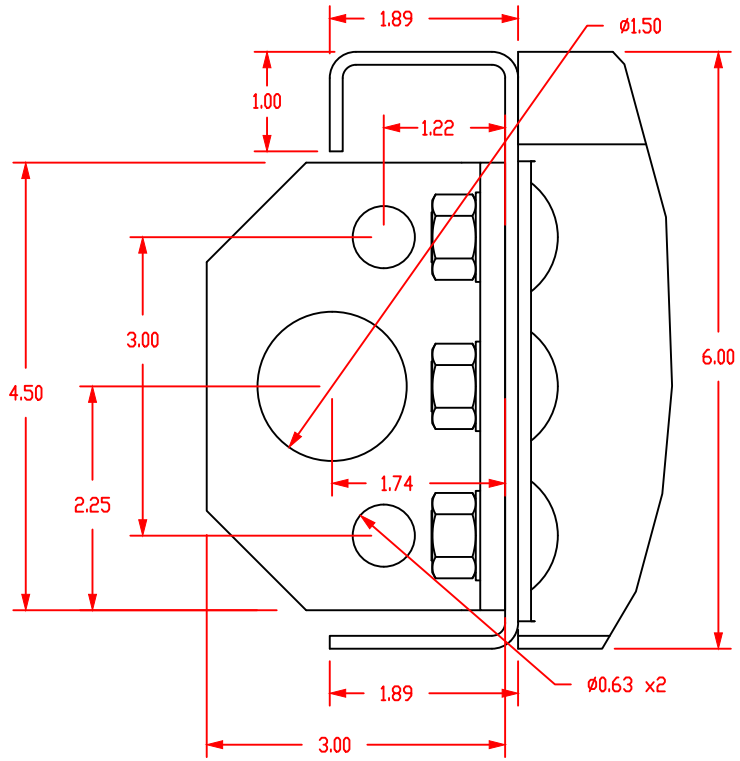
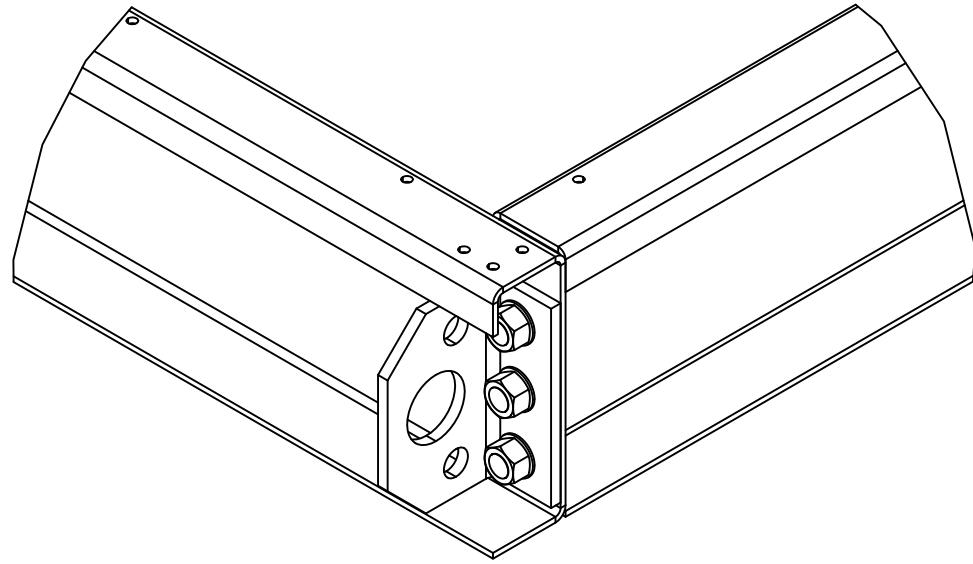
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



DATE
5/27/2022

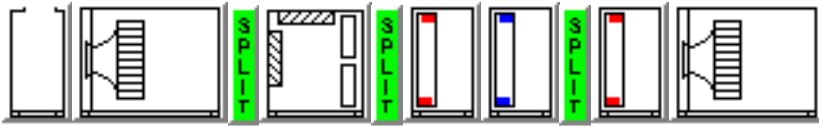
AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION

Job Name CMS Hidden Valley, Grier, Newell

Mark for AHU-6



Unit Parameters

Aero Indoor Air Handler

39MN Size 21W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Top

Door Left Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan A PDLA01245

Direct Drive Fan

1437 fanRPM Class II

Full Open Discharge

Spring Fan Isolation

Motor Shaft Grounding

Motor

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 215T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 7.3

Efficiency - 89.5%

Door Left Side

Filter Mixing Box

Shipping Split After

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-6

Field Supplied 2in. MERV 8 Throwaway Filter
Construction Filters
Qty (6) 20in. x 25in.

Door Left Side
Minihelic Differential Pressure Gage 0-2" w.c. Left Side

Hot Water Coil and Plenum

304 Stainless Steel Drain Pan Left Side
Hot Water 21.44 sq.ft 1 Row 8 FPI Half Circuit
Coil Connection Left Side
1/2 in. Tube Diameter
Fin Thickness: 0.0060
AL fins Galv. Casing
Steel Header
No Coating
Door Left Side

Chilled Water Coil and Plenum

Shipping Split After
304 Stainless Steel Drain Pan Left Side
Chilled Water 21.44 sq.ft 10 Row 11 FPI Double Circuit
Coil Connection Left Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Left Side

Hot Water Coil and Plenum

304 Stainless Steel Drain Pan Left Side
Hot Water 21.44 sq.ft 1 Row 11 FPI Half Circuit
Coil Connection Left Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Left Side

Draw-Thru Supply Fan

Rear Inlet

Fan Sled

Plenum Fan B PDLA01270

Direct Drive Fan

1429 fanRPM Class II

Field Supplied Discharge

Spring Fan Isolation

Motor Shaft Grounding

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-6

Motor

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 256T

Motor Shaft Diameter (in.) - 1.625

Voltage Selected - 460/3/60

Full Load Amps - 14.1

Efficiency - 91.0%

Door Left Side

Configuration Notes

Preheat coil configurations can cause freezstat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Weights and Dimensions

(LxWxH in ft in) 22' 5" x 6' 8" x 5' 0" **

Operating 5858 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 Each Additional 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 21 - 30

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.
All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell

Tag: AHU-6

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
10 / 11 / DB
.0042 in
Sine Wave
Large
21.44 sqft
494.4 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
Actual Airflow **10600** CFM
 Site Altitude **0** ft
 Standard Airflow (adj. to std. dry atmosphere) **10221** SCFM
 Total Cooling Capacity **489.85** MBH
 Sensible Cooling Capacity **327.43** MBH
Fluid Flow Rate **80.2** gpm
Fluid Pressure Drop **3.8** ft wg
 Fluid Velocity **2.2** ft/s
 Entering Fluid Temperature **44.00** F
 Leaving Fluid Temperature **56.17** F
 Fluid Temperature Rise **12.2** F
 Entering Air Dry Bulb **80.00** F
 Entering Air Wet Bulb **67.00** F
 Entering Air Enthalpy **31.50** BTU/lb
 Leaving Air Dry Bulb **50.86** F
 Leaving Air Wet Bulb **50.86** F
 Leaving Air Enthalpy **20.8** BTU/lb
 Air Friction **1.30** in wg
 Brine **FW**
 Brine Concentration **0** %
 Fouling Factor **0.0** (hr-sqft-F)/BTU



Actual Airflow	10600	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	10221	SCFM
Total Cooling Capacity	489.85	MBH
Sensible Cooling Capacity	327.43	MBH
Fluid Flow Rate	80.2	gpm
Fluid Pressure Drop	3.8	ft wg
Fluid Velocity	2.2	ft/s
Entering Fluid Temperature	44.00	F
Leaving Fluid Temperature	56.17	F
Fluid Temperature Rise	12.2	F
Entering Air Dry Bulb	80.00	F
Entering Air Wet Bulb	67.00	F
Entering Air Enthalpy	31.50	BTU/lb
Leaving Air Dry Bulb	50.86	F
Leaving Air Wet Bulb	50.86	F
Leaving Air Enthalpy	20.8	BTU/lb
Air Friction	1.30	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-6

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 8 / HF
.0060 in
Sine Wave
Large
21.44 sqft
494.4 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow	10600	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	10701	SCFM
Heating Capacity	173.71	MBH
Fluid Flow Rate	7.9	gpm
Fluid Pressure Drop	0.2	ft wg
Fluid Velocity	0.7	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	115.08	F
Fluid Temperature Drop	44.9	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	79.84	F
Air Friction	0.19	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

PREHEAT

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-6

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 11 / HF
.0042 in
Sine Wave
Large
21.44 sqft
494.4 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
Actual Airflow **10600** CFM
 Site Altitude **0** ft
 Standard Airflow (adj. to std. dry atmosphere) **10701** SCFM
 Heating Capacity **210.26** MBH
REHEAT
Fluid Flow Rate **10.1** gpm
Fluid Pressure Drop **0.3** ft wg
 Fluid Velocity **0.9** ft/s
 Entering Fluid Temperature **160.00** F
 Leaving Fluid Temperature **117.48** F
 Fluid Temperature Drop **42.5** F
 Entering Air Temperature **65.00** F
 Leaving Air Temperature **82.97** F
 Air Friction **0.21** in wg
 Brine **FW**
 Brine Concentration **0** %
 Fouling Factor **0.0** (hr-sqft-F)/BTU



Actual Airflow	10600	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	10701	SCFM
Heating Capacity	210.26	MBH
REHEAT		
Fluid Flow Rate	10.1	gpm
Fluid Pressure Drop	0.3	ft wg
Fluid Velocity	0.9	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	117.48	F
Fluid Temperature Drop	42.5	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	82.97	F
Air Friction	0.21	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
Tag: AHU-6

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	91	86	83
125 Hz _____	89	88	85
250 Hz _____	94	94	90
500 Hz _____	86	86	81
1000 Hz _____	84	76	73
2000 Hz _____	82	77	72
4000 Hz _____	80	74	70
8000 Hz _____	77	72	67

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	65	60	57
125 Hz _____	73	71	68
250 Hz _____	85	85	81
500 Hz _____	82	82	78
1000 Hz _____	84	76	73
2000 Hz _____	83	78	73
4000 Hz _____	81	75	71
8000 Hz _____	76	71	66

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	87	85	82
125 Hz _____	84	85	80
250 Hz _____	89	93	87
500 Hz _____	82	84	79
1000 Hz _____	80	75	70
2000 Hz _____	79	75	69
4000 Hz _____	76	73	67
8000 Hz _____	73	70	65

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	61	59	56
125 Hz _____	68	69	64
250 Hz _____	80	84	79
500 Hz _____	79	81	76
1000 Hz _____	80	75	70
2000 Hz _____	80	76	70
4000 Hz _____	77	74	68
8000 Hz _____	72	69	64

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

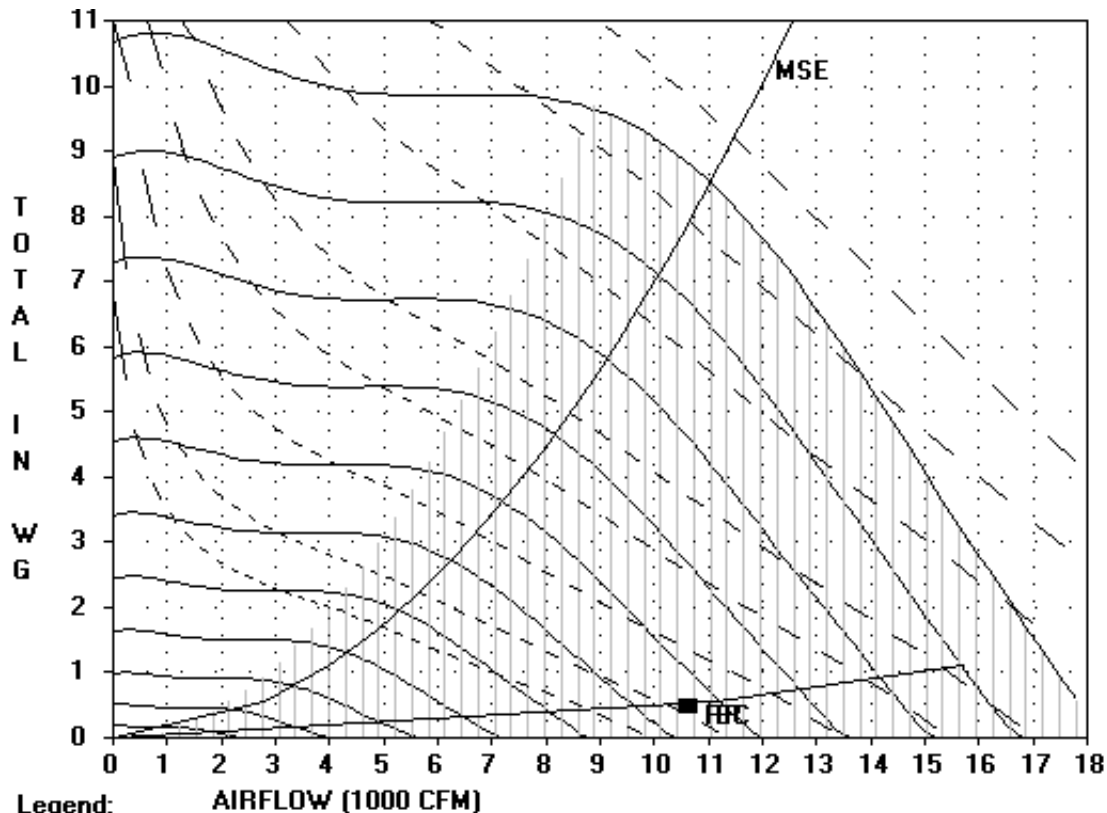
Sound contributed by Supply and Return Fans

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-6

Fan Model	39M2101HPDL
Unit Size	21W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	24.5
Fan Class	II
Static Efficiency (%)	26
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	10600
Site Altitude, , ft	0
Total Upstream Static Losses, in wg	0.50
Number of Fans	1
Calculated Fan RPM / Motor RPM	1437 / 1200
Class II Max. RPM	2269
Fan BHP	3.3
Fan Electrical Power, kW	2.7

Unit is outside of the scope of AHRI Standard 430/431.



Legend:

AIRFLOW (1000 CFM)

- RPM
- BHP
MSE - Max. Static Eff.
SC - System Curve
RP - Rated Point

RPM = 1437 BHP = 3.3 CLASS II MAX. RPM = 2269

RPM's (x 100, L to R): 3. 5. 7. 9. 11. 13. 15. 17. 19. 21. 23.

BHP's (L to R): 2 3 5 7.5 10 15 20 25

Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-6

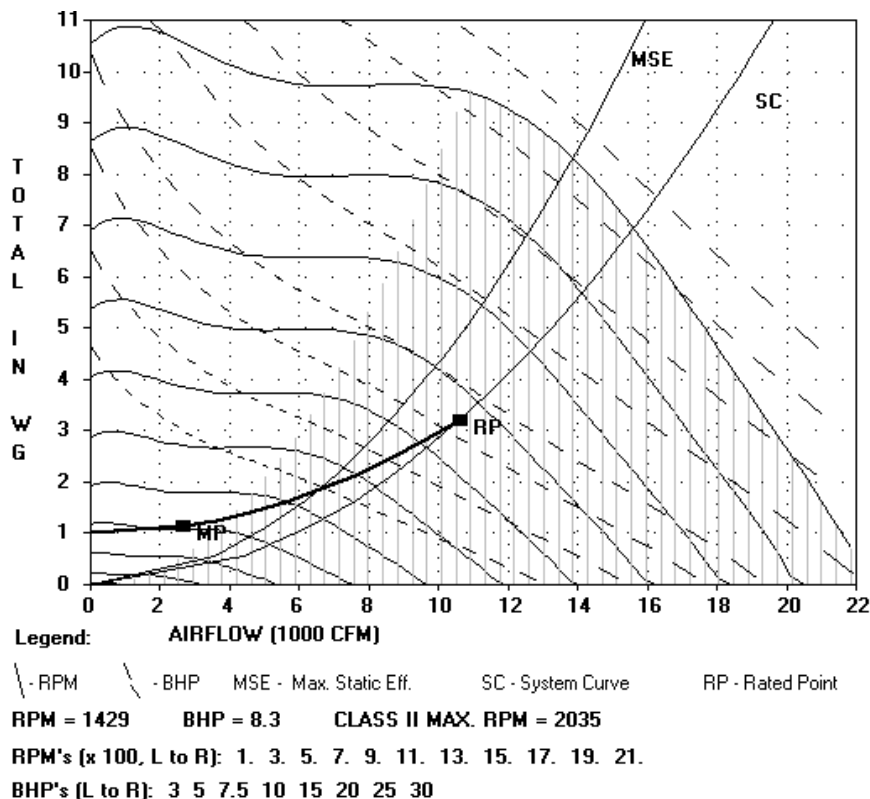
Fan Model	39M2101HPDL-U
Unit Size	21W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	27
Fan Class	II
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	10600
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	1.00
Cooling Coil Static, in wg	1.30
Heating Coil Static, in wg	0.40
Total Accessory Static, in wg	0.51
Total Static Pressure, in wg	3.21
Calculated Fan RPM / Motor RPM	1429 / 1200
Class II Max. RPM	2035
Static Efficiency (%)	64
Number of Fans	1
Fan BHP	8.3
Fan Electrical Power, kW	6.8



Accessories:

- (1) Flat Throwaway (2 in.), Dirty [0.39]
- (1) Mixing or Exhaust Box [0.12]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahrirectory.org

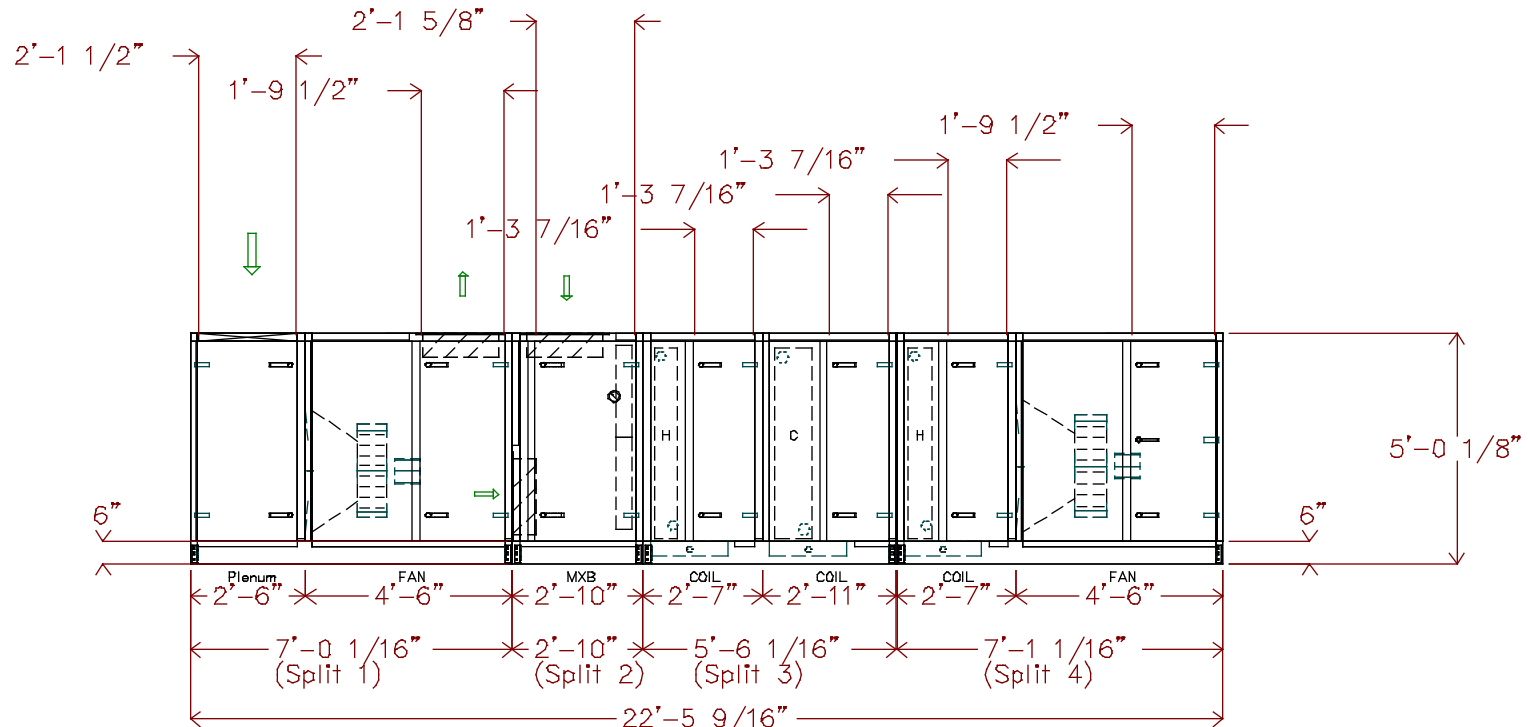


Unit width: 6'-8 11/16" (plus lifting lugs)
 Return Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (6) 20in. x 25in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)
 Draw-Thru Supply Fan
 10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 Operating weight: 5858.0 lbs.
 Upstream Corner Weight (each): 1369.0 lbs.
 Downstream Corner Weight (each): 1560.0 lbs.



Split	Airway Length	Weight (lbs.)
(Split 1)	7'-0 1/16"	1483
(Split 2)	2'-10"	797
(Split 3)	5'-6 1/16"	1762
(Split 4)	7'-1 1/16"	1816



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 21W CMS Hidden Valley, Grier, Newell: AHU-6 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	---------------------------

Unit viewed from right side of side elevation view.
 Unit length: 22'-5 9/16"
 Return Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (6) 20in. x 25in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

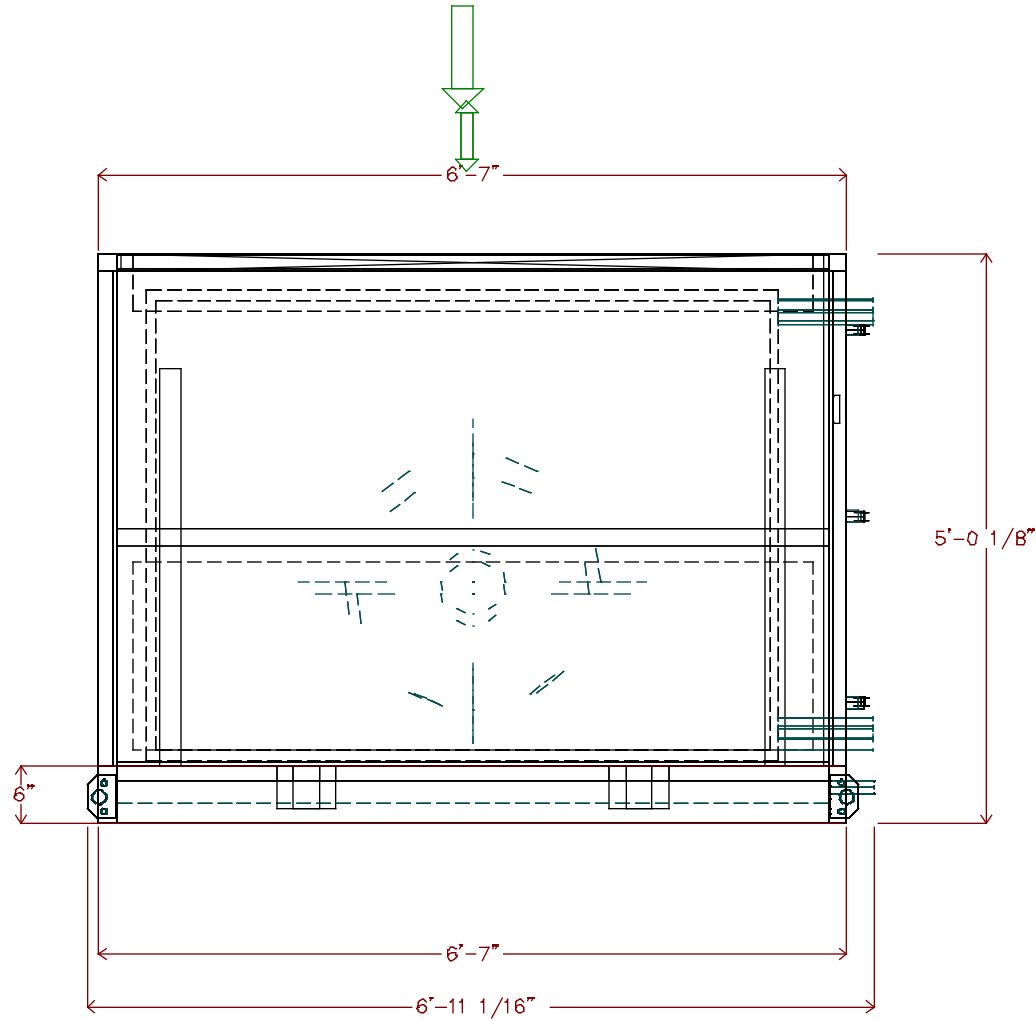
Hot Water 1 Row 11 FPI Half Circuit (qty. 1)
 Draw-Thru Supply Fan
 10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 Operating weight: 5858.0 lbs.
 Upstream Corner Weight (each): 1369.0 lbs.
 Downstream Corner Weight (each): 1560.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 21W CMS Hidden Valley, Grier, Newell: AHU-6 Assembly Drawing	REVISION End View
-------------------	----------------------	--	--------------------------

Unit height: 5'-0 7/8"

Return Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2in. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5858.0 lbs.

Upstream Corner Weight (each): 1369.0 lbs.

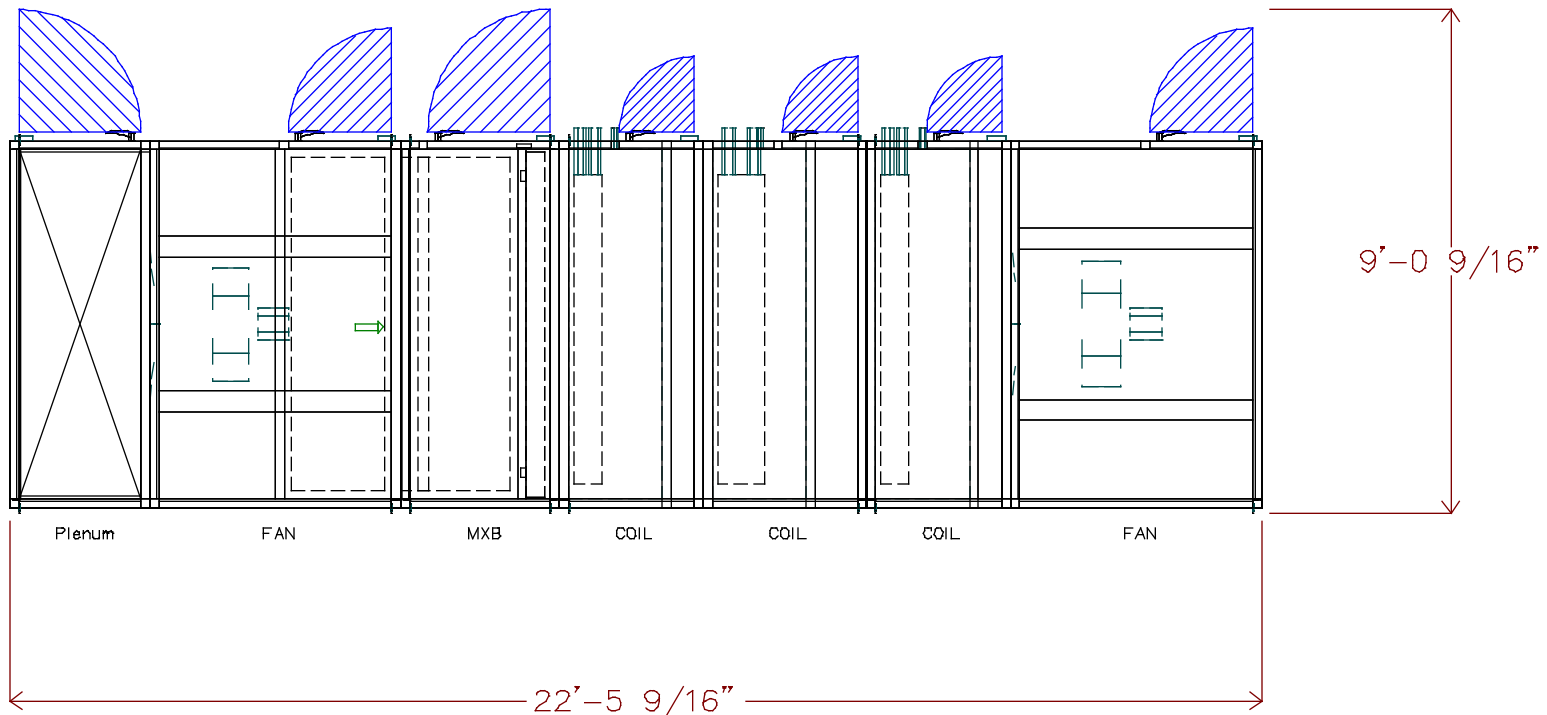
Downstream Corner Weight (each): 1560.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-6
Assembly Drawing

REVISION
Top View

Unit height: 5'-0 7/8"

Return Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2ln. Flat Filter

Qty (6) 20in. x 25in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

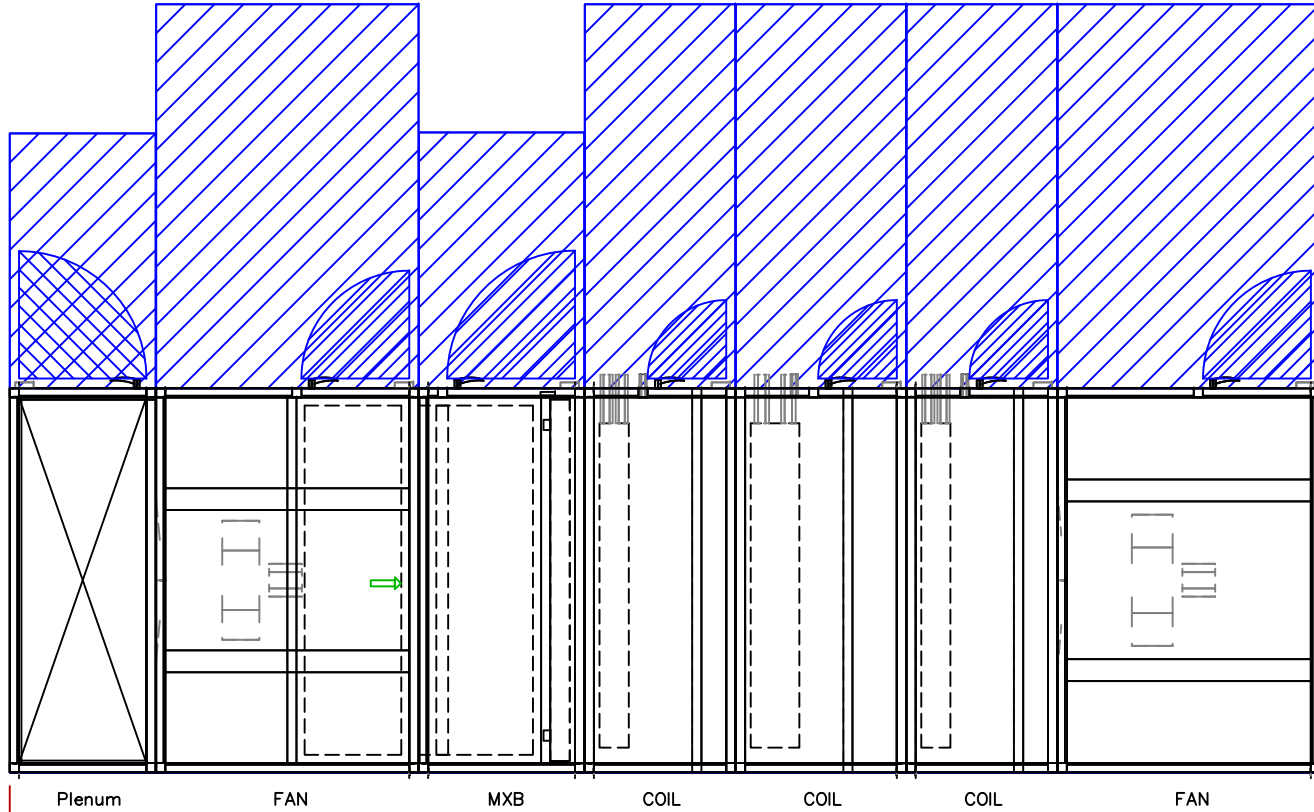
Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Operating weight: 5858.0 lbs.

Upstream Corner Weight (each): 1369.0 lbs.

Downstream Corner Weight (each): 1560.0 lbs.



13'-3 1/4"

22'-5 9/16"

THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M

DATE
4/27/2022

AHUBuilder
v6.691

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-6
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 10 Row 11 FPI Double Circuit (qty. 1)
 Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

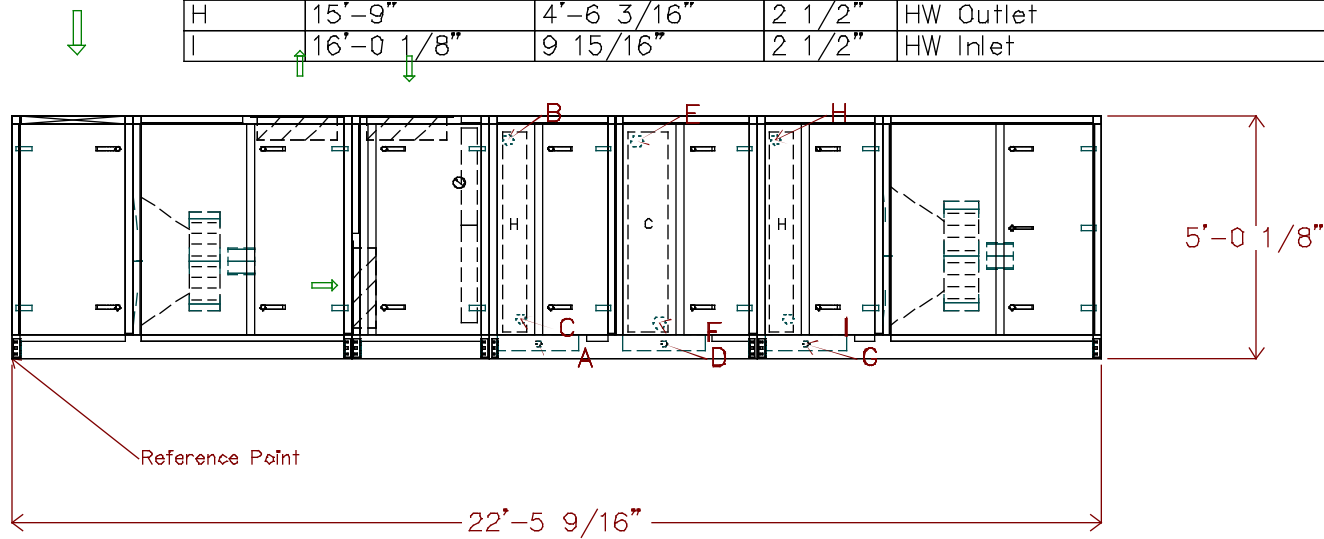


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	10'-10 5/16"	3 13/16"	1 1/2"	DrainPan
B	10'-2 3/4"	4'-6 3/16"	2 1/2"	HW Outlet
C	10'-5 15/16"	9 15/16"	2 1/2"	HW Inlet
D	13'-5 3/8"	3 13/16"	1 1/2"	DrainPan
E	12'-10 11/16"	4'-5 15/16"	3"	CW Outlet
F	13'-4 3/16"	9"	3"	CW Inlet
G	16'-4 1/2"	3 13/16"	1 1/2"	DrainPan
H	15'-9"	4'-6 3/16"	2 1/2"	HW Outlet
I	16'-0 1/8"	9 15/16"	2 1/2"	HW Inlet



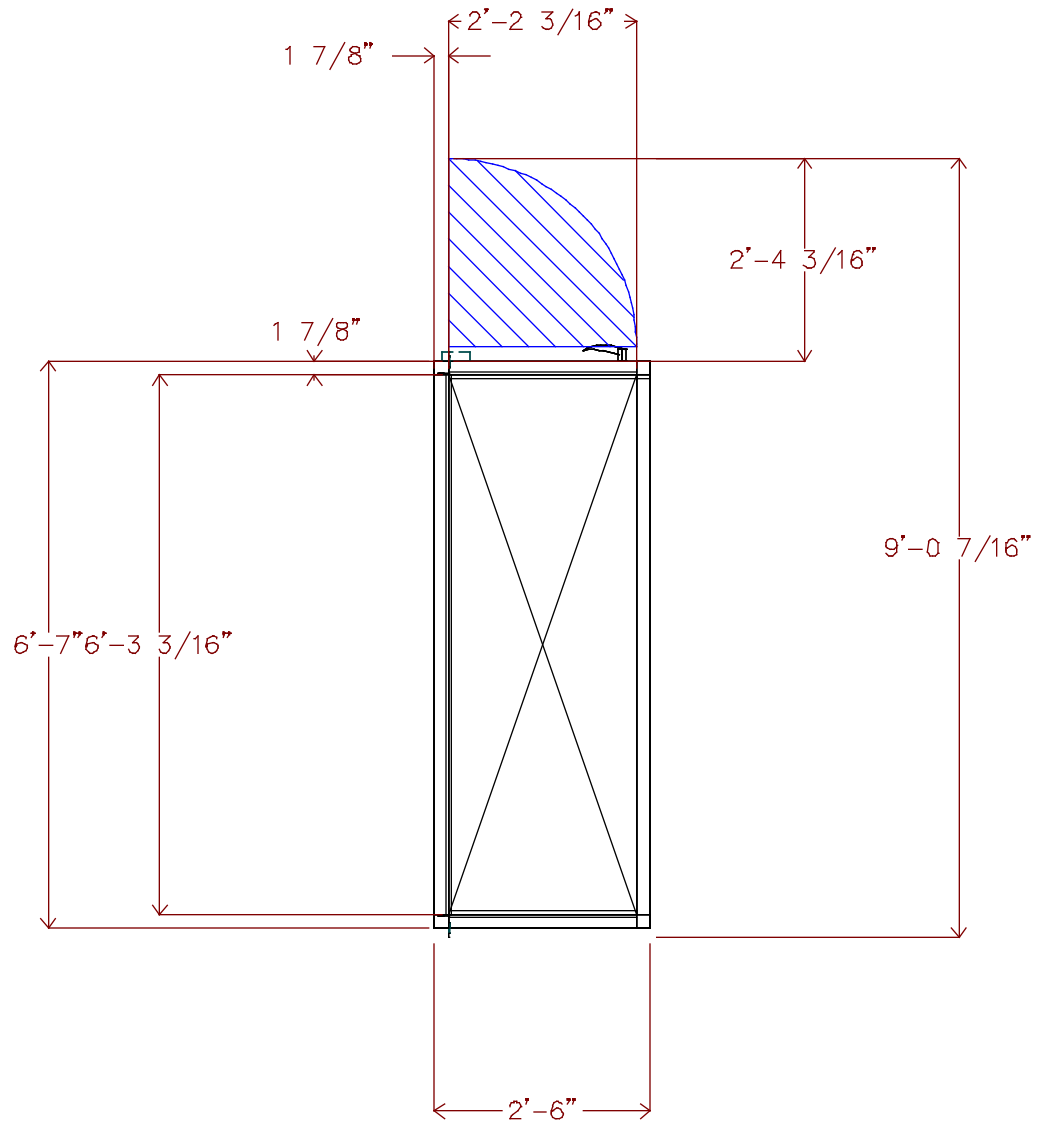
DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 21W CMS Hidden Valley, Grier, Newell: AHU-6 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	-----------------------



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-6
Turning Plenum

REVISION
Top View

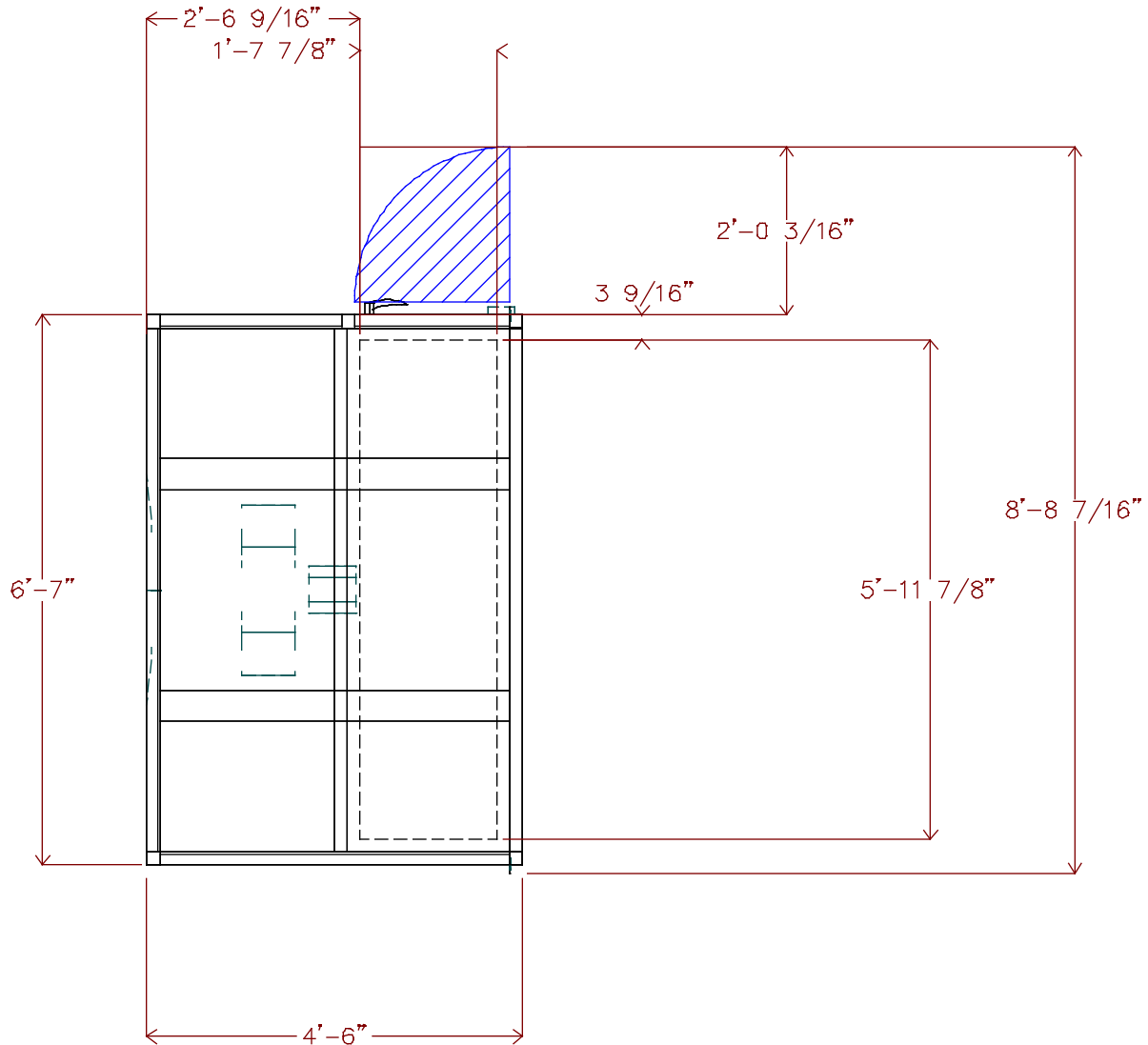
Return Fan
 5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

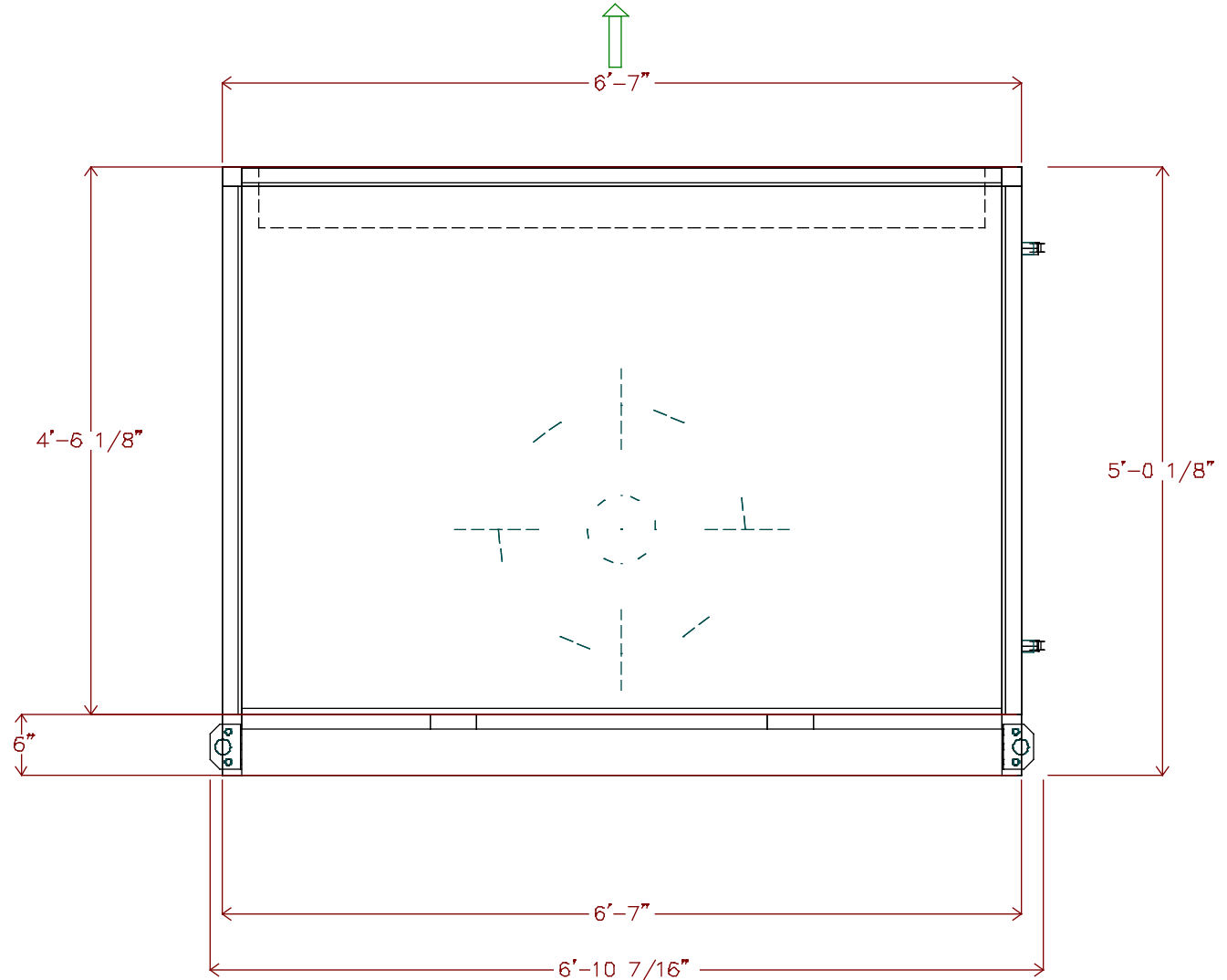
39M Central Station Air-Handler, Size 21W
 CMS Hidden Valley, Grier, Newell: AHU-6
 Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

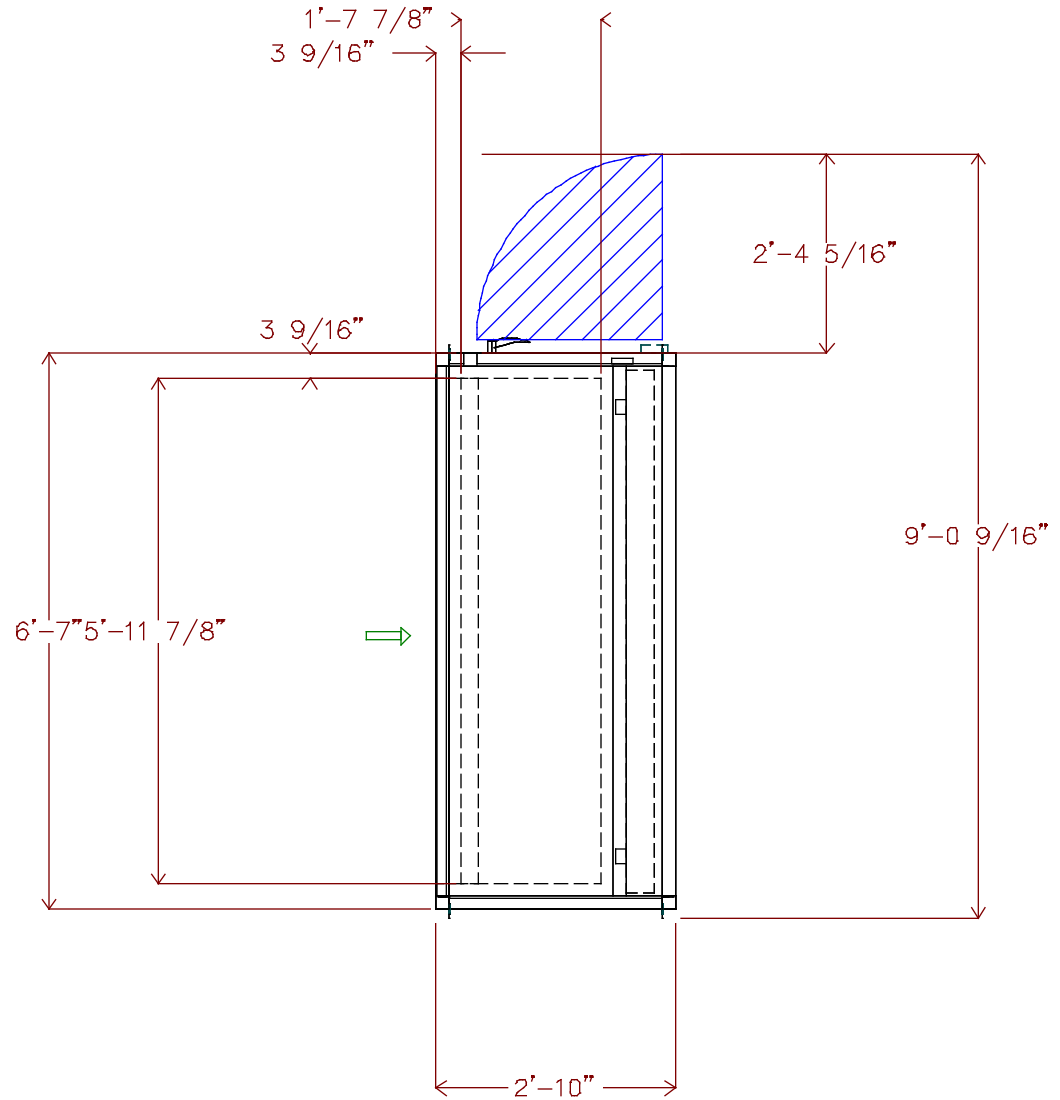
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-6
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (6) 20in. x 25in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
 5/27/2022

AHUBuilder
 v6.69m

39M Central Station Air-Handler, Size 21W
 CMS Hidden Valley, Grier, Newell: AHU-6
 Filter Mixing Box

REVISION
 Top View

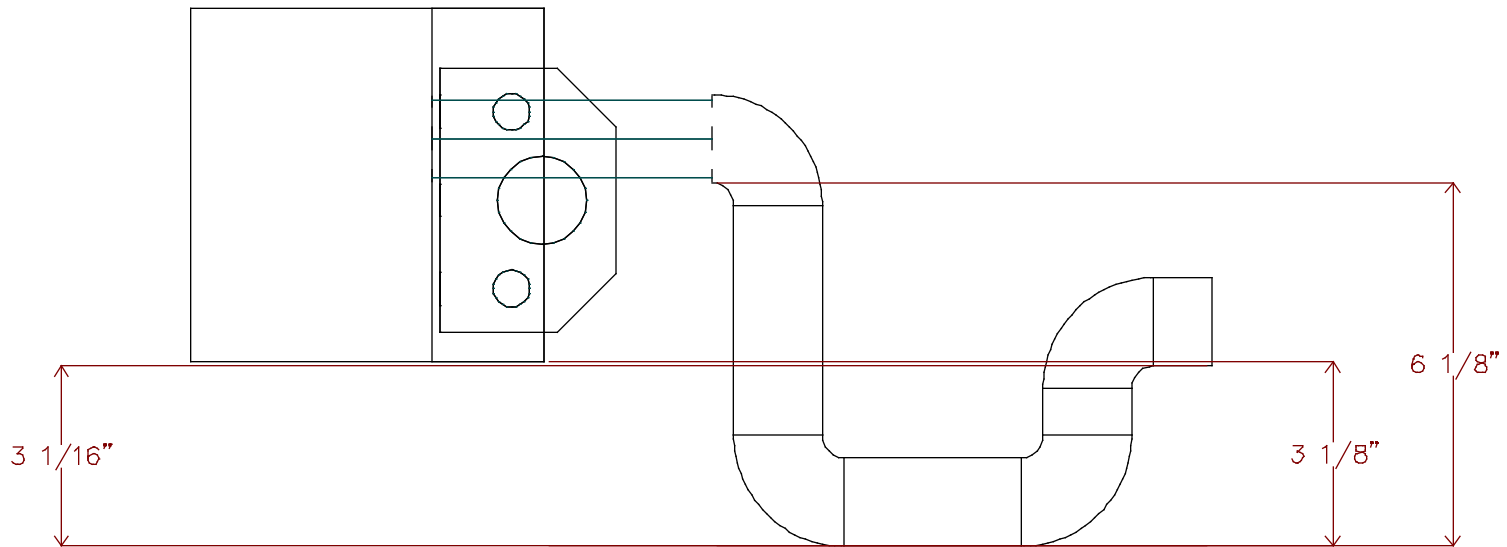


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 21W
CMS Hidden Valley, Grier, Newell: AHU-6
Condensate Trap Dimensions

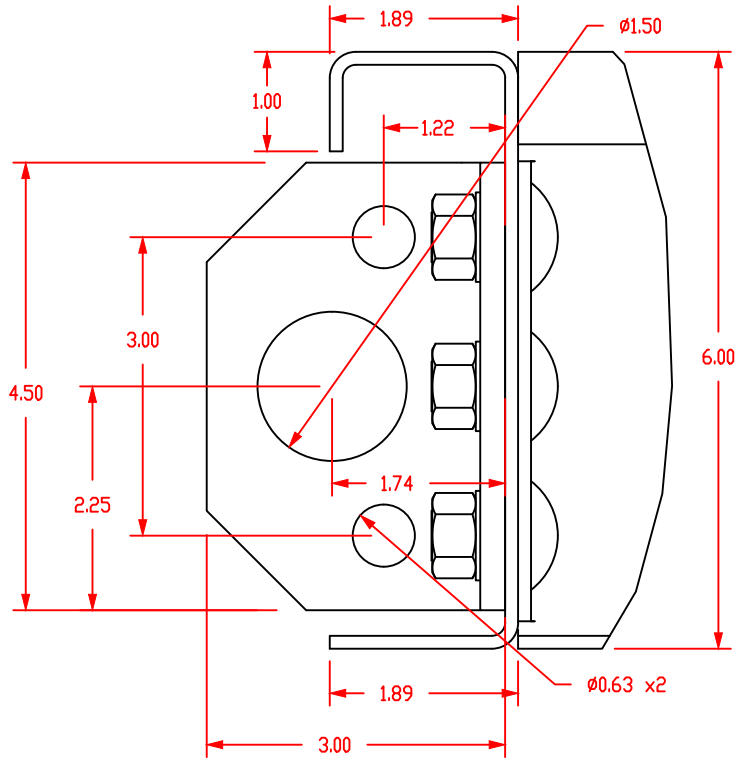
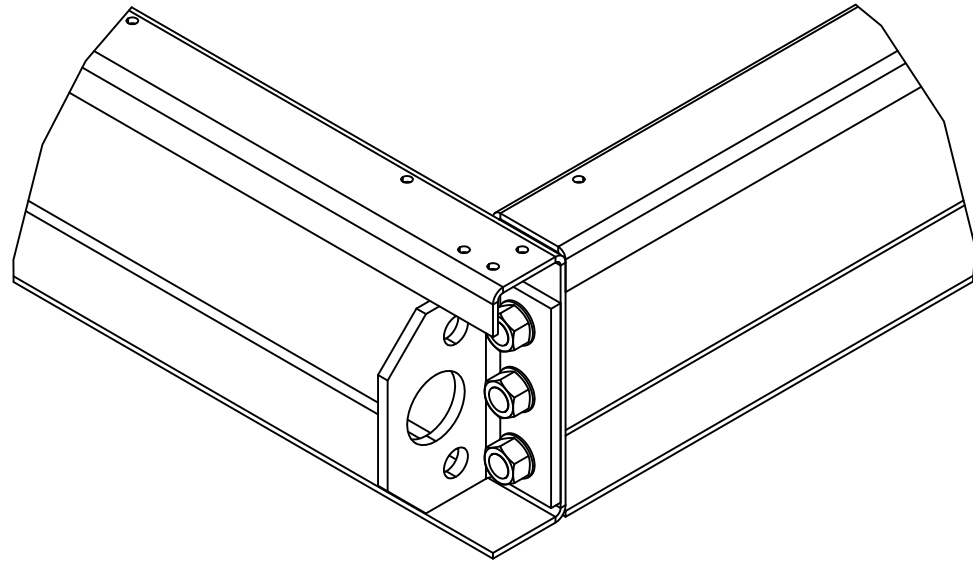
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M

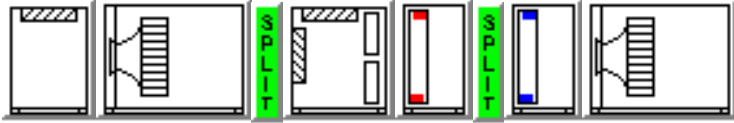


DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION



Unit Parameters

Aero Indoor Air Handler

39MN Size 30W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Mixing Box

Top: Blank Opening

Door Left Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan B PDLA01222

Direct Drive Fans

Fan Count 2

1480 fanRPM Class II

Full Open Discharge

Backdraft Dampers

Spring Fan Isolation

Motor Shaft Grounding

Motor

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 213T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 4.6 (Each)

Efficiency - 89.5%

Door Left Side

Filter Mixing Box

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

Job Name CMS Hidden Valley, Grier, Newell

Mark for AHU-7

2In. Flat Filter
Field Supplied 2in. MERV 8 Throwaway Filter
Construction Filters
Qty (10) 20in. x 24in.

Door Left Side

Minihelic Differential Pressure Gage 0-2" w.c. Left Side

Hot Water Coil and Plenum

Shipping Split After

304 Stainless Steel Drain Pan Left Side

Hot Water 30.35 sq.ft 1 Row 8 FPI Half Circuit

Coil Connection Left Side

1/2 in. Tube Diameter

Fin Thickness: 0.0060

AL fins Galv. Casing

Steel Header

No Coating

Door Left Side

Chilled Water Coil and Plenum

304 Stainless Steel Drain Pan Left Side

Chilled Water 30.35 sq.ft 8 Row 14 FPI Double Circuit

Coil Connection Left Side

1/2 in. Tube Diameter

Fin Thickness: 0.0060

AL fins Galv. Casing

Steel Header

No Coating

Door Left Side

Draw-Thru Supply Fan

Rear Inlet

Fan Sled
Plenum Fan B PDLA01222
Direct Drive Fans

Fan Count 2

1956 fanRPM Class II

Field Supplied Discharge

Backdraft Dampers

Spring Fan Isolation

Motor Shaft Grounding

Motor

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 215T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-7

Full Load Amps - 12.0 (Each)

Efficiency - 91.7%

Door Left Side

Configuration Notes

Backdraft dampers are close to door(s.) Ensure adequate access exists.

Preheat coil configurations can cause freeze stat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

Backdraft dampers are close to door(s.) Ensure adequate access exists.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Weights and Dimensions

(LxWxH in ft in) 20' 4" x 8' 9" x 5' 0" **

Operating 7087 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 First 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 21 - 30

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.
All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-7

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
8 / 14 / DB
.0060 in
Sine Wave
Large
30.35 sqft
497.5 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow _____	15100	CFM
Site Altitude _____	0	ft
Standard Airflow (adj. to std. dry atmosphere) _____	14560	SCFM
Total Cooling Capacity _____	699.19	MBH
Sensible Cooling Capacity _____	467.04	MBH
Fluid Flow Rate _____	114.0	gpm
Fluid Pressure Drop _____	5.3	ft wg
Fluid Velocity _____	2.6	ft/s
Entering Fluid Temperature _____	44.00	F
Leaving Fluid Temperature _____	56.22	F
Fluid Temperature Rise _____	12.2	F
Entering Air Dry Bulb _____	80.00	F
Entering Air Wet Bulb _____	67.00	F
Entering Air Enthalpy _____	31.50	BTU/lb
Leaving Air Dry Bulb _____	50.82	F
Leaving Air Wet Bulb _____	50.82	F
Leaving Air Enthalpy _____	20.8	BTU/lb
Air Friction _____	1.22	in wg
Brine _____	FW	
Brine Concentration _____	0	%
Fouling Factor _____	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-7

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 8 / HF
.0060 in
Sine Wave
Large
30.35 sqft
497.5 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow _____ **15100** CFM

Site Altitude _____ **0** ft

Standard Airflow (adj. to std. dry atmosphere) _____ **15244** SCFM

Heating Capacity _____ **274.15** MBH

Fluid Flow Rate _____ **12.5** gpm

Fluid Pressure Drop _____ **0.5** ft wg

Fluid Velocity _____ **1.1** ft/s

Entering Fluid Temperature _____ **160.00** F

Leaving Fluid Temperature _____ **115.20** F

Fluid Temperature Drop _____ **44.8** F

Entering Air Temperature _____ **65.00** F

Leaving Air Temperature _____ **81.45** F

Air Friction _____ **0.19** in wg

Brine _____ **FW**

Brine Concentration _____ **0** %

Fouling Factor _____ **0.0** (hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

Stf -- Tube spacing across coil face

Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-7

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	98	93	91
125 Hz _____	96	91	89
250 Hz _____	100	92	89
500 Hz _____	92	90	86
1000 Hz _____	89	83	81
2000 Hz _____	88	81	77
4000 Hz _____	86	81	76
8000 Hz _____	91	82	78

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	72	67	65
125 Hz _____	80	75	73
250 Hz _____	92	83	80
500 Hz _____	89	87	83
1000 Hz _____	89	83	81
2000 Hz _____	90	83	79
4000 Hz _____	87	82	77
8000 Hz _____	90	81	77

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	87	90	87
125 Hz _____	86	86	82
250 Hz _____	92	89	84
500 Hz _____	83	86	81
1000 Hz _____	82	79	74
2000 Hz _____	80	78	72
4000 Hz _____	80	78	72
8000 Hz _____	81	77	71

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	61	64	60
125 Hz _____	70	70	66
250 Hz _____	83	80	75
500 Hz _____	80	83	78
1000 Hz _____	82	79	74
2000 Hz _____	81	79	73
4000 Hz _____	81	79	73
8000 Hz _____	80	76	70

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

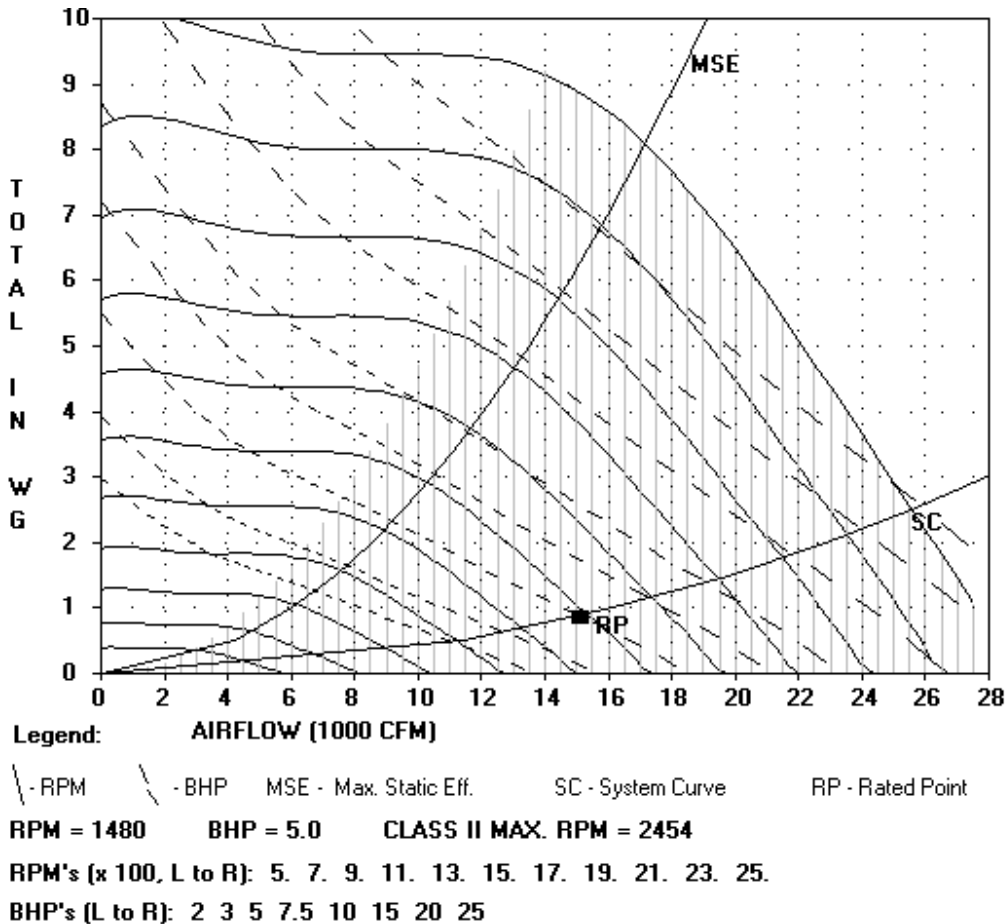
Sound contributed by Supply and Return Fans

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-7

Fan Model	39M3002HPDL
Unit Size	30W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	22.2
Fan Class	II
Static Efficiency (%)	32
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	15100
Site Altitude, , ft	0
Backdraft Damper Loss, in wg	0.19
Total Upstream Static Losses, in wg	0.88
Number of Fans	2
Fan RPM / Max RPM	1480/2331
Each Fan BHP	2.5
Fan Total BHP	5.0
(n-1) Airflow, CFM	9392
(n-1) Redundancy (%)	62
Fan Electrical Power, kW	4.2

Unit is outside of the scope of AHRI Standard 430/431.



Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-7

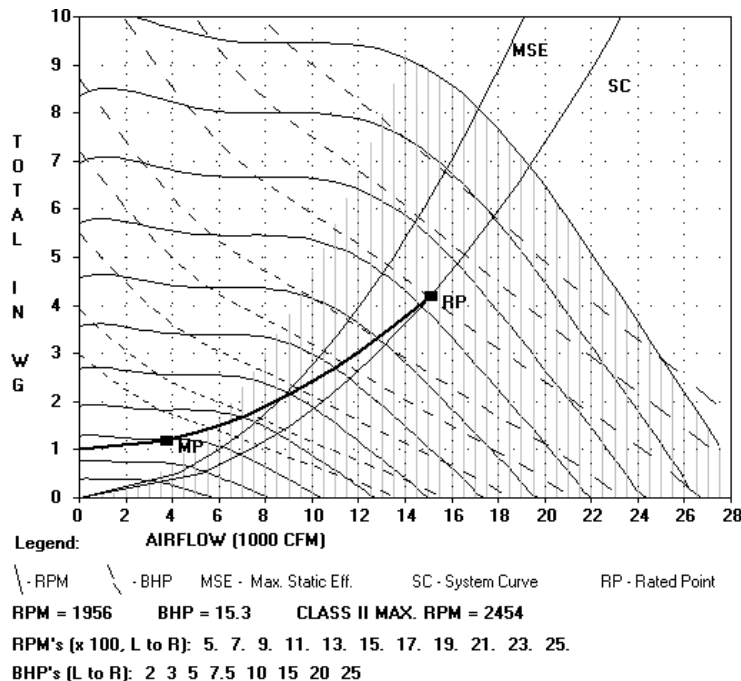
Fan Model	39M3002HPDL-U
Unit Size	30W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	22.2
Fan Class	II
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	15100
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	2.25
Cooling Coil Static, in wg	1.22
Heating Coil Static, in wg	0.19
Backdraft Damper Losses, in wg	0.19
Total Accessory Static, in wg	0.36
Total Static Pressure, in wg	4.21
Calculated Fan RPM / Motor RPM	1956 / 1800
Class II Max. RPM	2454
Static Efficiency (%)	62
Number of Fans	2
Each Fan BHP	7.7
Fan Total BHP	15.3
(n-1) Airflow, CFM	11711
(n-1) Redundancy (%)	78
Fan Electrical Power, kW	12.4



Accessories:

- (1) Flat Throwaway (2 in.) [0.22]
- (1) Mixing or Exhaust Box [0.14]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahridirectory.org



Unit width: 8'-9 11/16" (plus lifting lugs)
 Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (10) 20in. x 24in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan
 10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 7088.0 lbs.
 Upstream Corner Weight (each): 1672.0 lbs.
 Downstream Corner Weight (each): 1872.0 lbs.

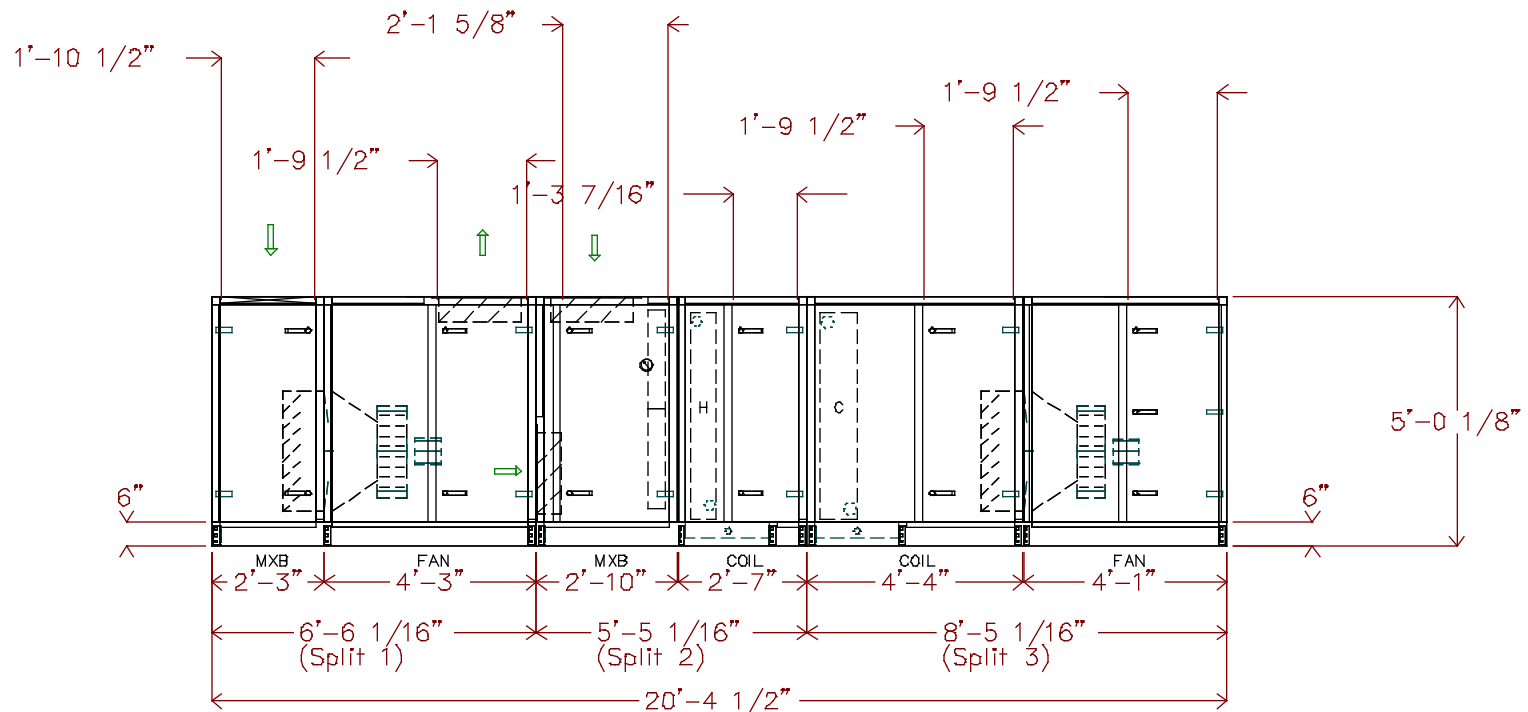


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Split	Airway Length	Weight (lbs.)
(Split 1)	6'-6 1/16"	1997
(Split 2)	5'-5 1/16"	1746
(Split 3)	8'-5 1/16"	3345



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
 CMS Hidden Valley, Grier, Newell: AHU-7
 Assembly Drawing

REVISION
Side View

Unit viewed from right side of side elevation view.

Unit length: 20'-4 1/2"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

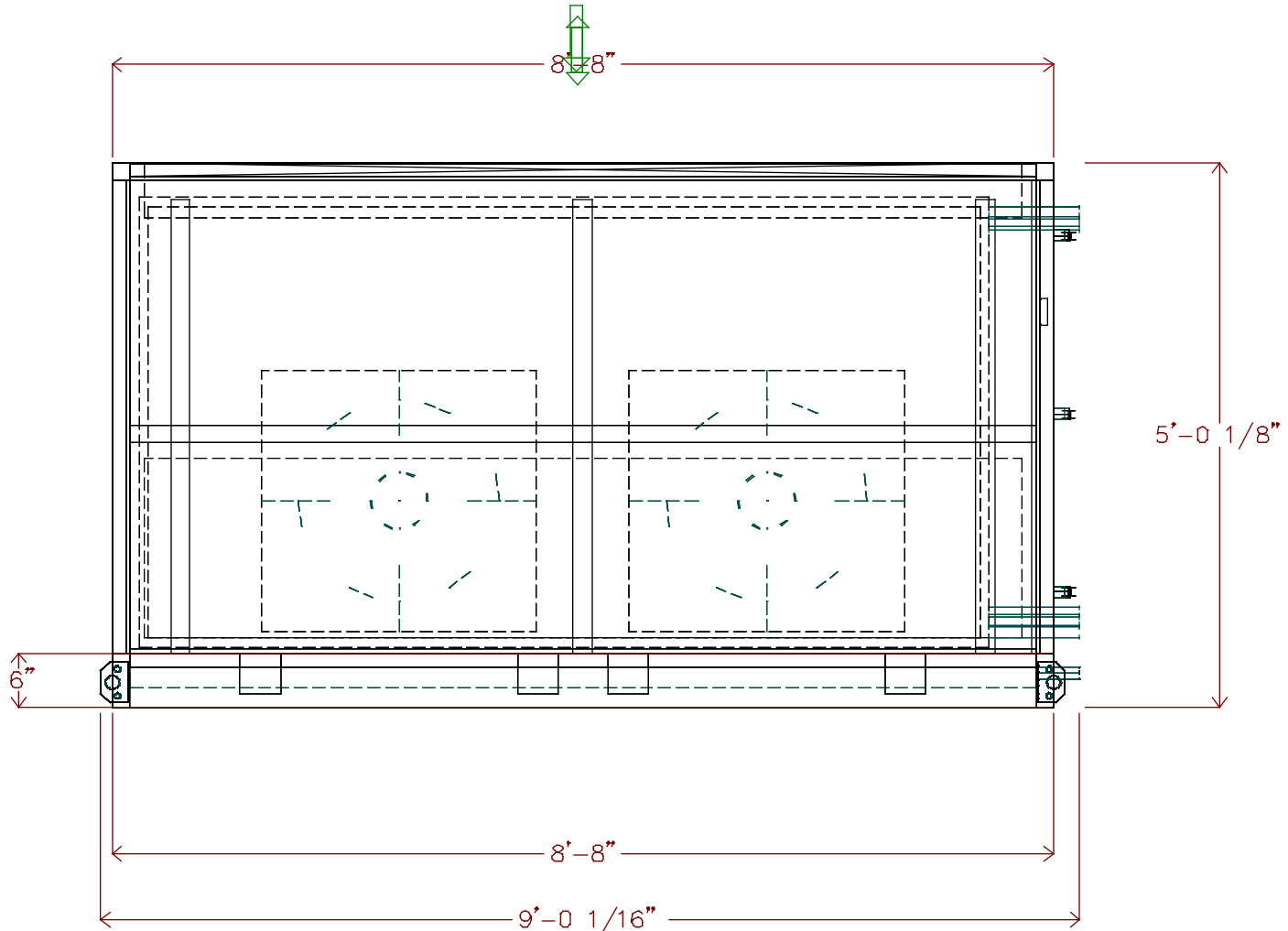
Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 7088.0 lbs.

Upstream Corner Weight (each): 1672.0 lbs.

Downstream Corner Weight (each): 1872.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-7
Assembly Drawing

REVISION
End View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hat Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

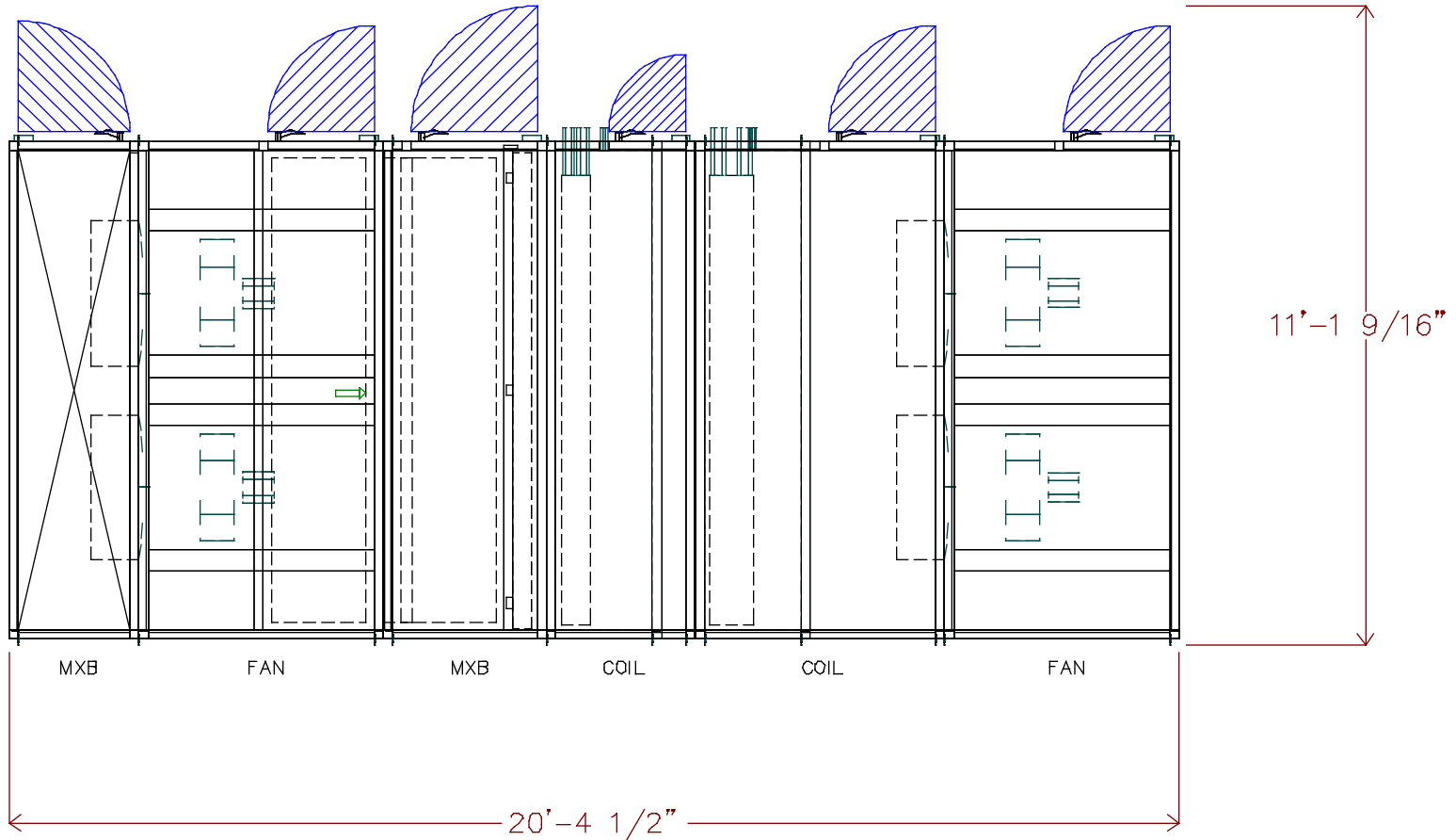
Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 7088.0 lbs.

Upstream Corner Weight (each): 1672.0 lbs.

Downstream Corner Weight (each): 1872.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-7
Assembly Drawing

REVISION
Top View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 7088.0 lbs.

Upstream Corner Weight (each): 1672.0 lbs.

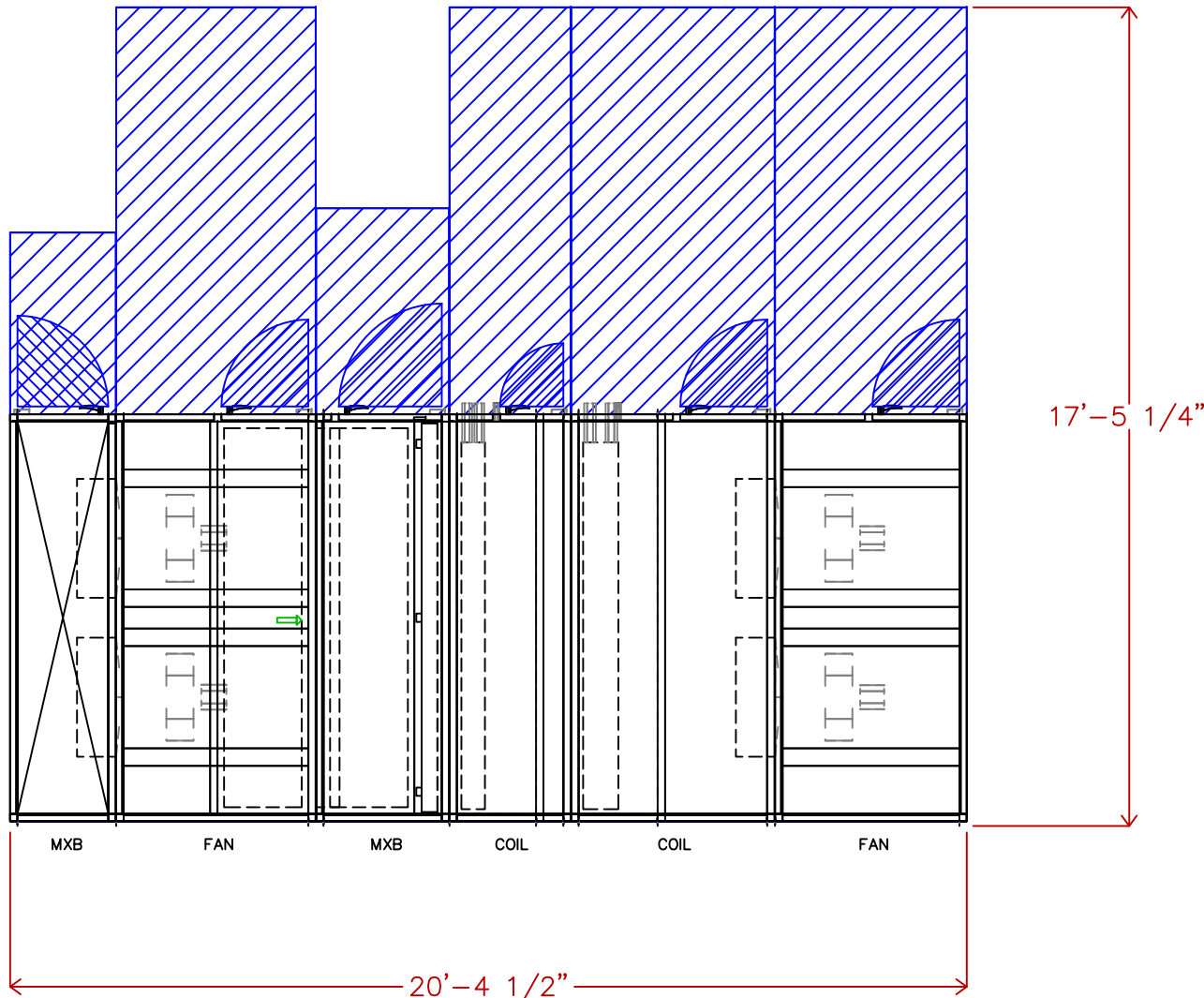
Downstream Corner Weight (each): 1872.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-7
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

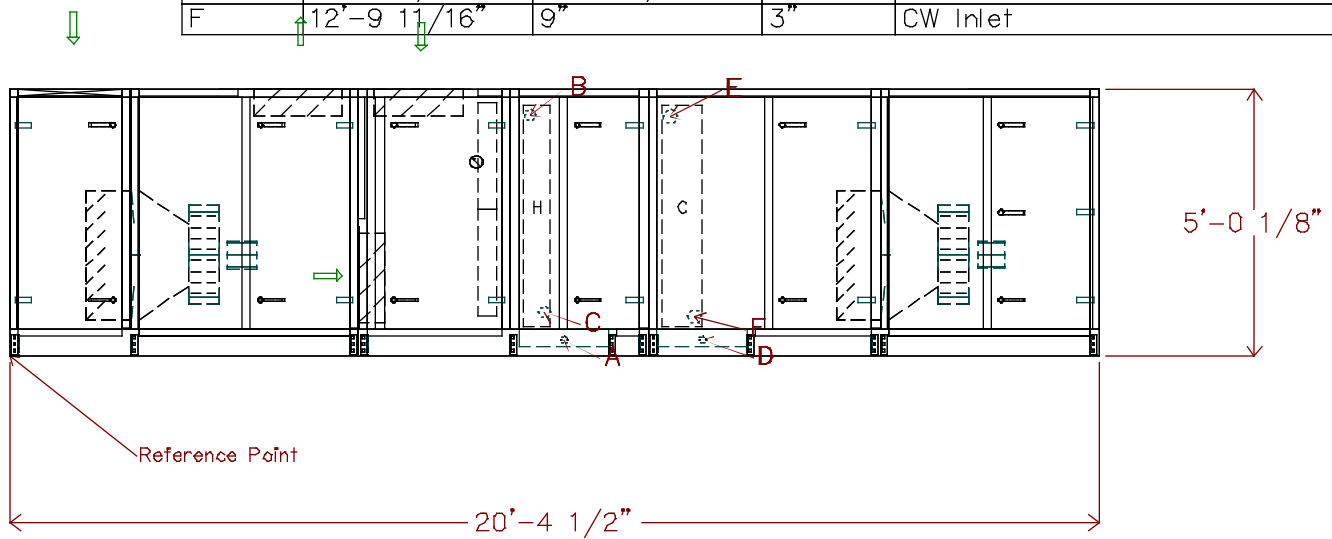


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	10'-4 5/16"	3 13/16"	1 1/2"	DrainPan
B	9'-8 3/4"	4'-6 3/16"	2 1/2"	HW Outlet
C	9'-11 15/16"	9 15/16"	2 1/2"	HW Inlet
D	12'-11 3/8"	3 13/16"	1 1/2"	DrainPan
E	12'-4 3/16"	4'-5 15/16"	3"	CW Outlet
F	12'-9 11/16"	9"	3"	CW Inlet



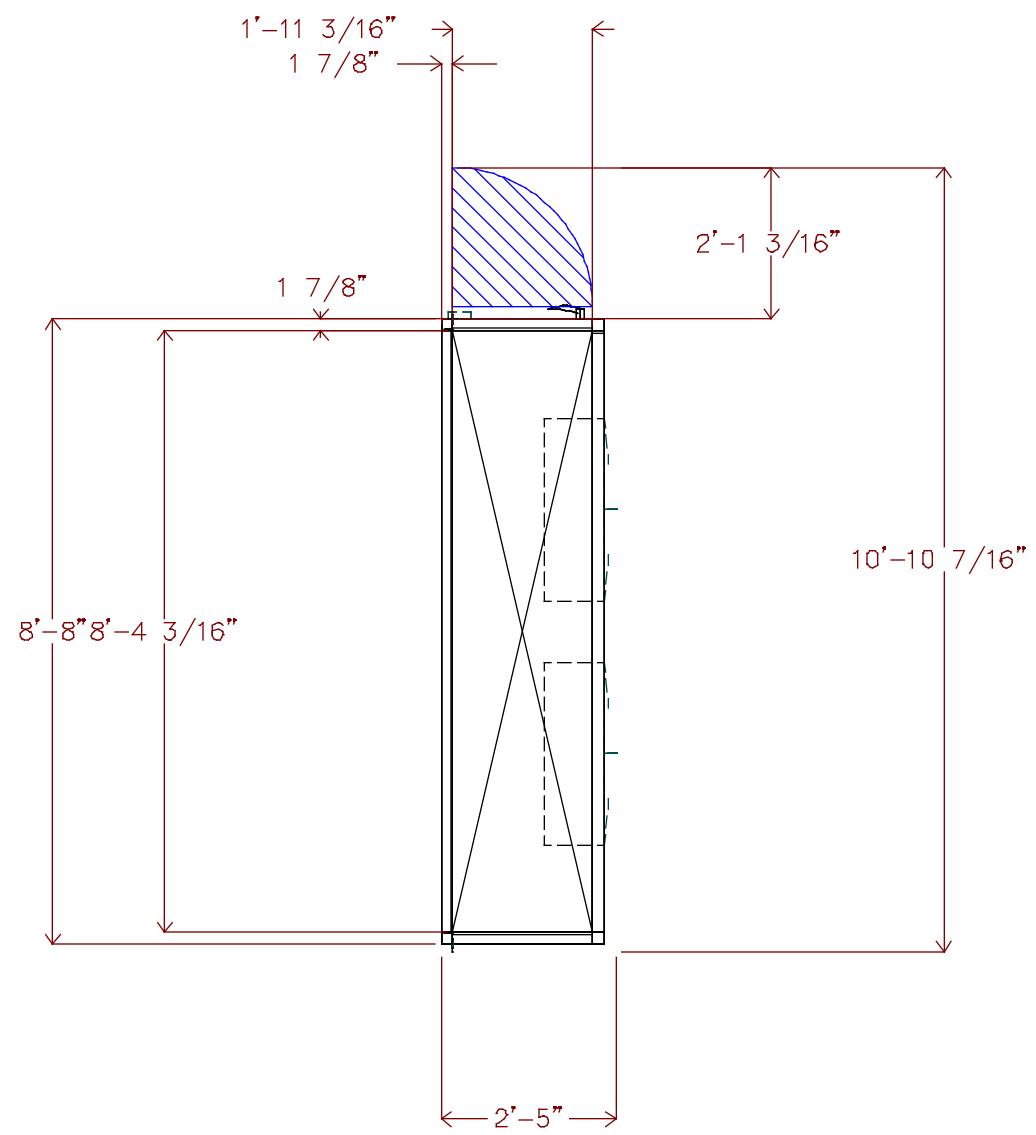
DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 30W CMS Hidden Valley, Grier, Newell: AHU-7 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	---------------------------



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



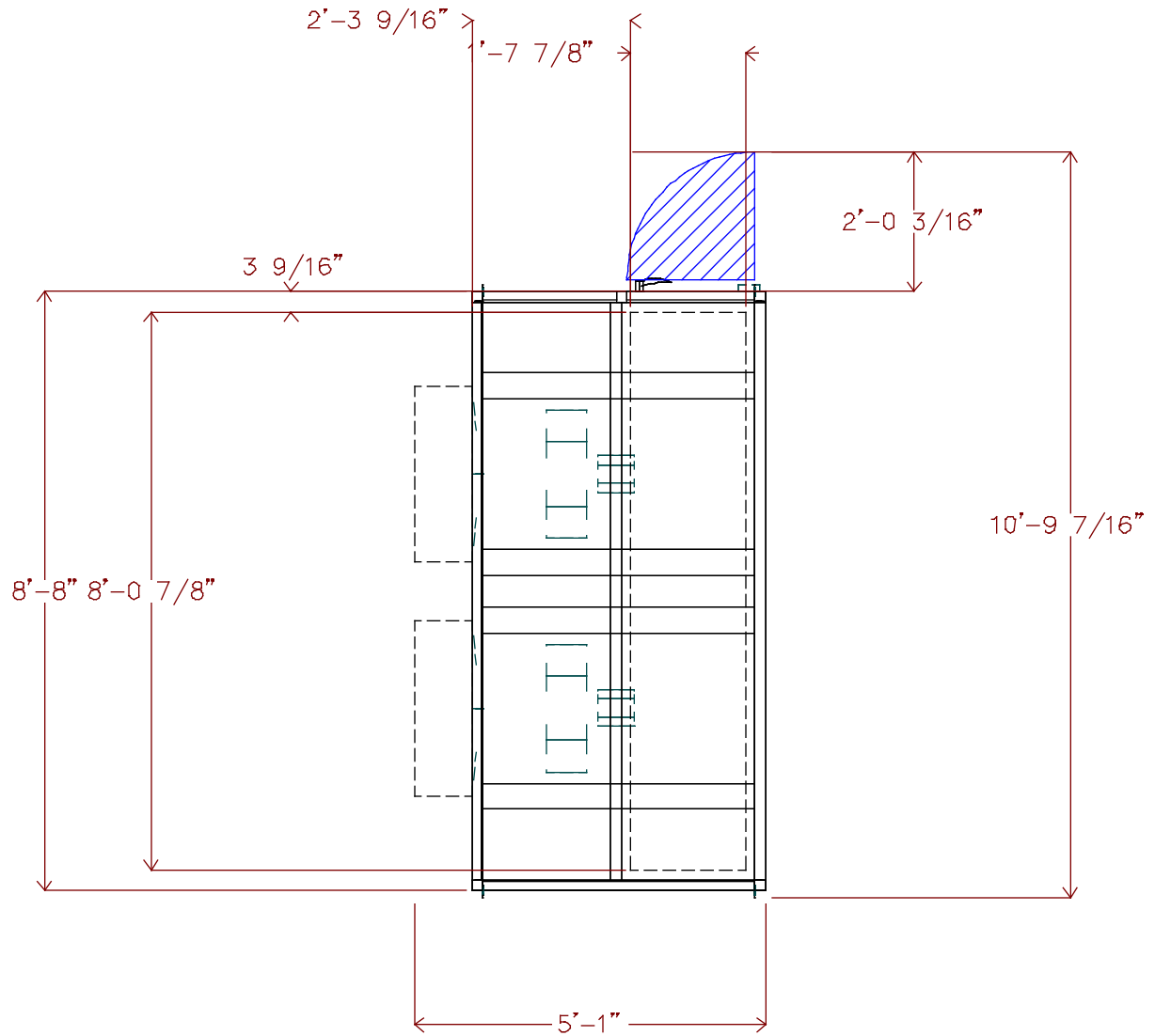
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-7
Mixing Box

REVISION
Top View

Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

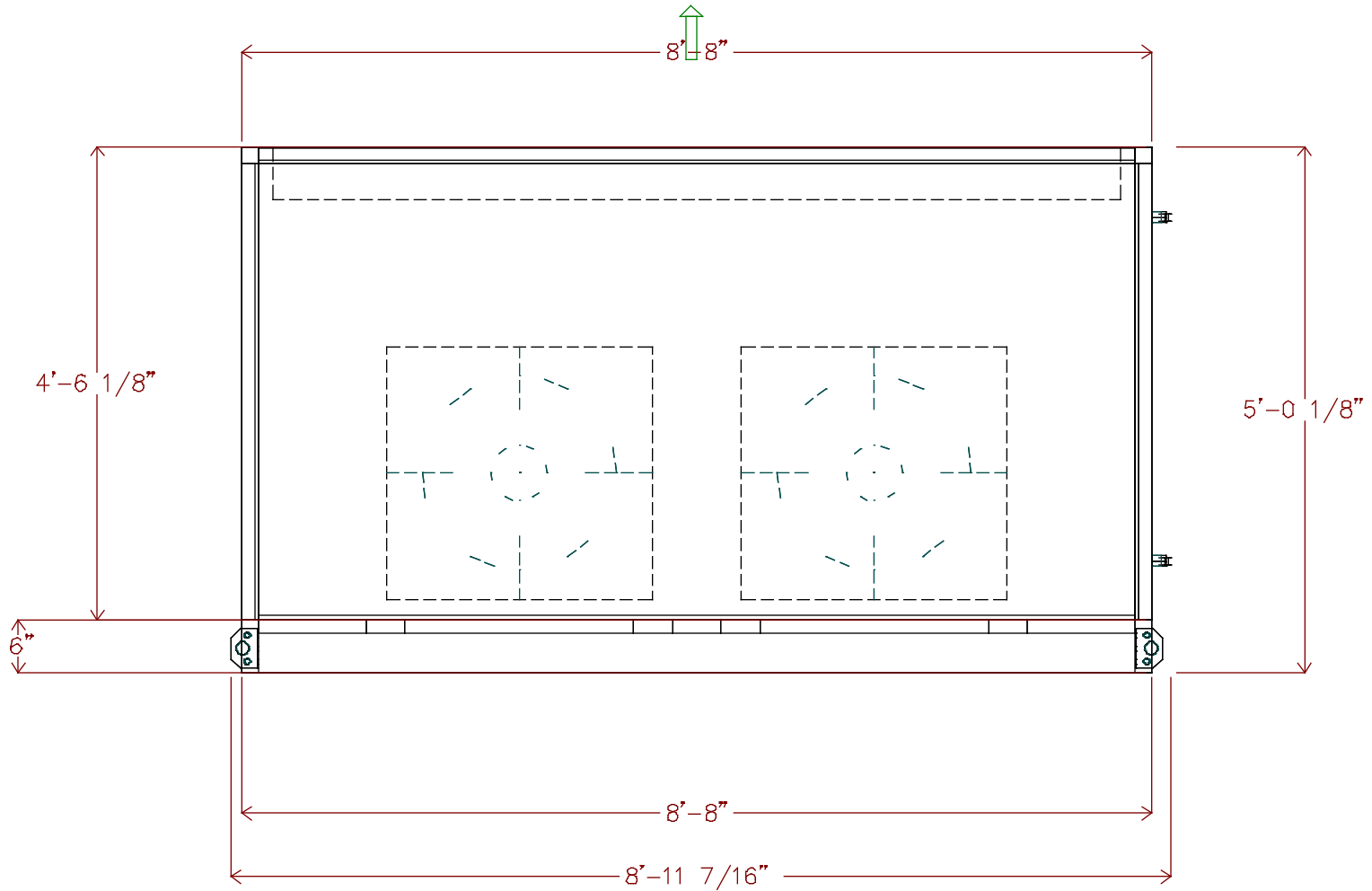
39M Central Station Air-Handler, Size 30W
 CMS Hidden Valley, Grier, Newell: AHU-7
 Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

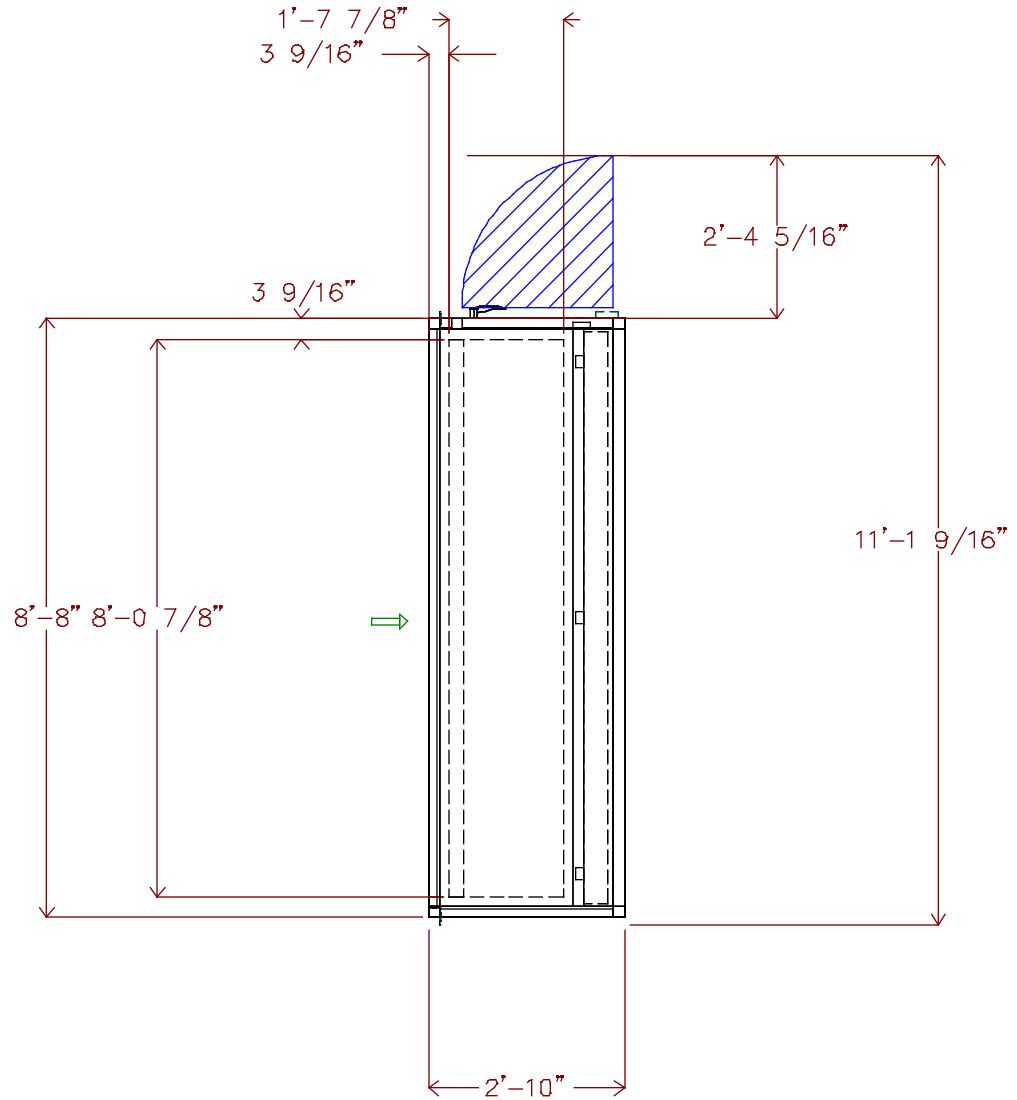
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-7
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (10) 20in. x 24in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
 CMS Hidden Valley, Grier, Newell: AHU-7
 Filter Mixing Box

REVISION
Top View

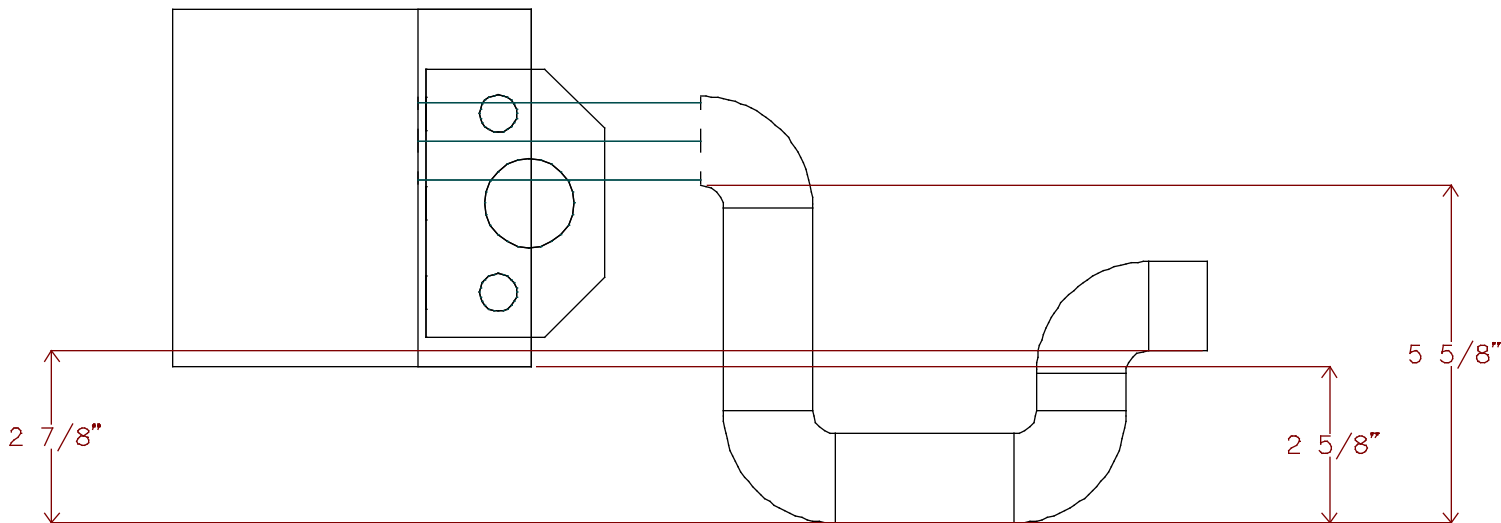


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-7
Condensate Trap Dimensions

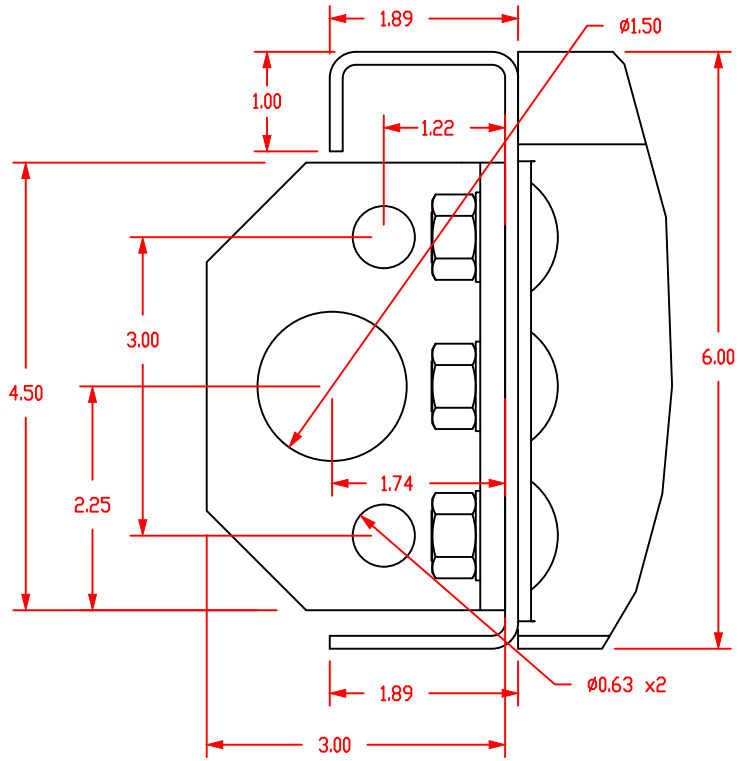
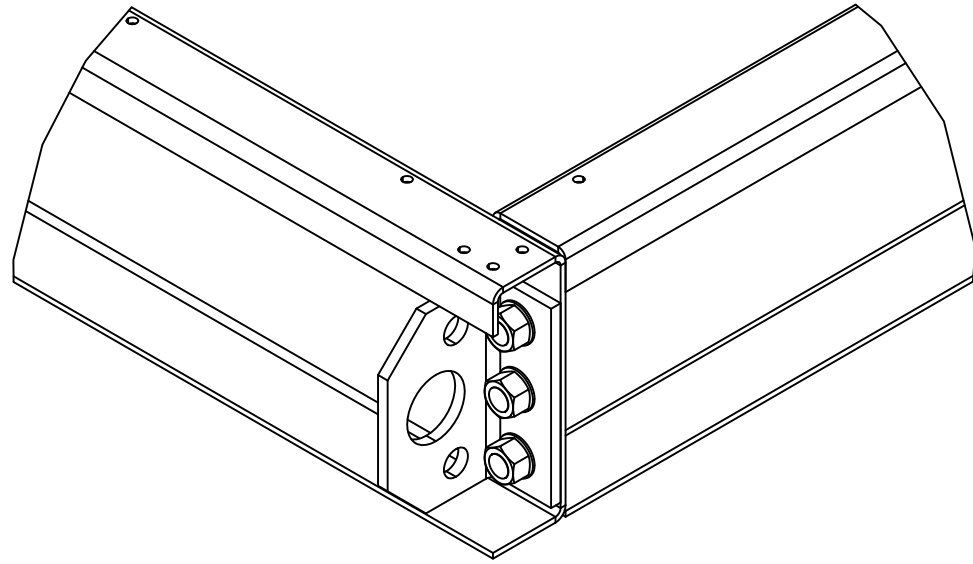
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M

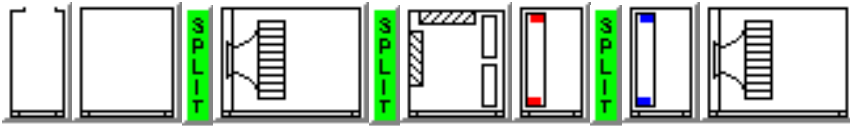


DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION



Unit Parameters

Aero Indoor Air Handler

39MN Size 30W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Top

Door Left Side

Plenum

Shipping Split After

Length 36 inches

Door Left Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan B PDLA01222

Direct Drive Fans

Fan Count 2

1444 fanRPM Class II

Full Open Discharge

Backdraft Dampers

Spring Fan Isolation

Motor Shaft Grounding

Motor

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

Manufacturer - Generic

Frame Size - 213T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 4.6 (Each)

Efficiency - 89.5%

Door Left Side

Filter Mixing Box

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter
Field Supplied 2in. MERV 8 Throwaway Filter
Construction Filters
Qty (10) 20in. x 24in.

Door Left Side

Minihelic Differential Pressure Gage 0-2" w.c. Left Side

Hot Water Coil and Plenum

Shipping Split After

304 Stainless Steel Drain Pan Left Side

Hot Water 30.35 sq.ft 1 Row 8 FPI Half Circuit

Coil Connection Left Side

1/2 in. Tube Diameter

Fin Thickness: 0.0060

AL fins Galv. Casing

Steel Header

No Coating

Door Left Side

Chilled Water Coil and Plenum

304 Stainless Steel Drain Pan Left Side

Chilled Water 30.35 sq.ft 8 Row 14 FPI Double Circuit

Coil Connection Left Side

1/2 in. Tube Diameter

Fin Thickness: 0.0060

AL fins Galv. Casing

Steel Header

No Coating

Door Left Side

Draw-Thru Supply Fan

Rear Inlet

Fan Sled

Plenum Fan B PDLA01222

Direct Drive Fans

Fan Count 2

1956 fanRPM Class II

Field Supplied Discharge

Backdraft Dampers

Spring Fan Isolation

Motor Shaft Grounding

Motor

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-8

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 215T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 12.0 (Each)

Efficiency - 91.7%

Door Left Side

Configuration Notes

Preheat coil configurations can cause freezstat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

Backdraft dampers are close to door(s.) Ensure adequate access exists.

If a bottom connection is required, use an Inlet Plenum Section.

Backdraft dampers are close to door(s.) Ensure adequate access exists.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Weights and Dimensions

(LxWxH in ft in) 23' 7" x 8' 9" x 5' 0" **

Operating 7673 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 First 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 21 - 30

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.

All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-8

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
8 / 14 / DB
.0060 in
Sine Wave
Large
30.35 sqft
497.5 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow	15100	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	14560	SCFM
Total Cooling Capacity	699.19	MBH
Sensible Cooling Capacity	467.04	MBH
Fluid Flow Rate	114.0	gpm
Fluid Pressure Drop	5.3	ft wg
Fluid Velocity	2.6	ft/s
Entering Fluid Temperature	44.00	F
Leaving Fluid Temperature	56.22	F
Fluid Temperature Rise	12.2	F
Entering Air Dry Bulb	80.00	F
Entering Air Wet Bulb	67.00	F
Entering Air Enthalpy	31.50	BTU/lb
Leaving Air Dry Bulb	50.82	F
Leaving Air Wet Bulb	50.82	F
Leaving Air Enthalpy	20.8	BTU/lb
Air Friction	1.22	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-8

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH
1
1 / 8 / HF
.0060 in
Sine Wave
Large
30.35 sqft
497.5 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in



Actual Airflow	15100	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	15244	SCFM
Heating Capacity	274.15	MBH
Fluid Flow Rate	12.5	gpm
Fluid Pressure Drop	0.5	ft wg
Fluid Velocity	1.1	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	115.20	F
Fluid Temperature Drop	44.8	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	81.45	F
Air Friction	0.19	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
Tag: AHU-8

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	98	93	91
125 Hz _____	96	91	89
250 Hz _____	100	92	89
500 Hz _____	92	90	86
1000 Hz _____	89	83	81
2000 Hz _____	88	81	77
4000 Hz _____	86	80	76
8000 Hz _____	91	82	78

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	72	67	65
125 Hz _____	80	74	73
250 Hz _____	92	83	80
500 Hz _____	89	86	83
1000 Hz _____	89	83	81
2000 Hz _____	90	82	79
4000 Hz _____	87	81	77
8000 Hz _____	90	81	77

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	87	90	86
125 Hz _____	86	86	82
250 Hz _____	92	89	84
500 Hz _____	83	86	81
1000 Hz _____	82	78	74
2000 Hz _____	80	78	72
4000 Hz _____	80	78	72
8000 Hz _____	81	77	71

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz _____	61	64	60
125 Hz _____	70	70	66
250 Hz _____	84	81	75
500 Hz _____	80	83	78
1000 Hz _____	82	78	74
2000 Hz _____	81	79	73
4000 Hz _____	81	79	73
8000 Hz _____	80	76	70

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

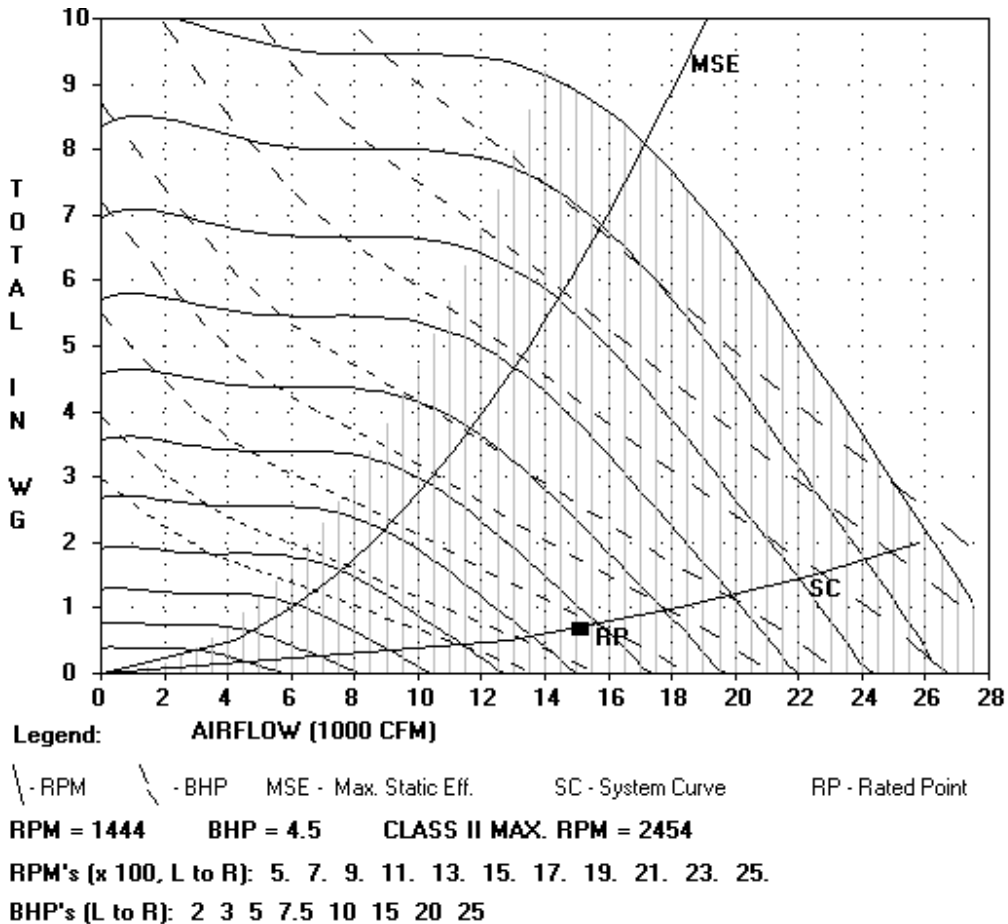
Sound contributed by Supply and Return Fans

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-8

Fan Model	39M3002HPDL
Unit Size	30W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	22.2
Fan Class	II
Static Efficiency (%)	26
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	15100
Site Altitude, , ft	0
Backdraft Damper Loss, in wg	0.19
Total Upstream Static Losses, in wg	0.69
Number of Fans	2
Fan RPM / Max RPM	1444/2331
Each Fan BHP	2.2
Fan Total BHP	4.5
(n-1) Airflow, CFM	9506
(n-1) Redundancy (%)	63
Fan Electrical Power, kW	3.8

Unit is outside of the scope of AHRI Standard 430/431.



Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-8

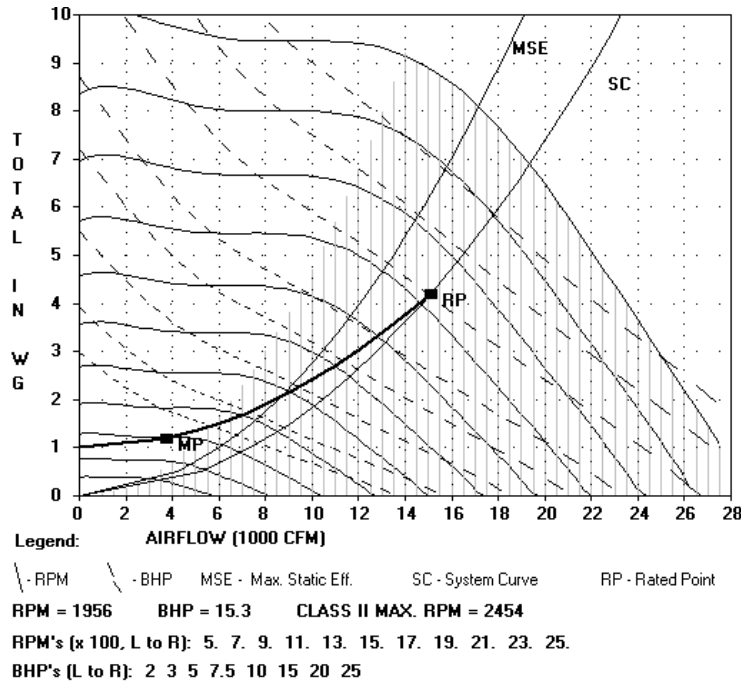
Fan Model	39M3002HPDL-U
Unit Size	30W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	22.2
Fan Class	II
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	15100
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	2.25
Cooling Coil Static, in wg	1.22
Heating Coil Static, in wg	0.19
Backdraft Damper Losses, in wg	0.19
Total Accessory Static, in wg	0.36
Total Static Pressure, in wg	4.21
Calculated Fan RPM / Motor RPM	1956 / 1800
Class II Max. RPM	2454
Static Efficiency (%)	62
Number of Fans	2
Each Fan BHP	7.7
Fan Total BHP	15.3
(n-1) Airflow, CFM	11711
(n-1) Redundancy (%)	78
Fan Electrical Power, kW	12.4



Accessories:

- (1) Flat Throwaway (2 in.) [0.22]
- (1) Mixing or Exhaust Box [0.14]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahridirectory.org

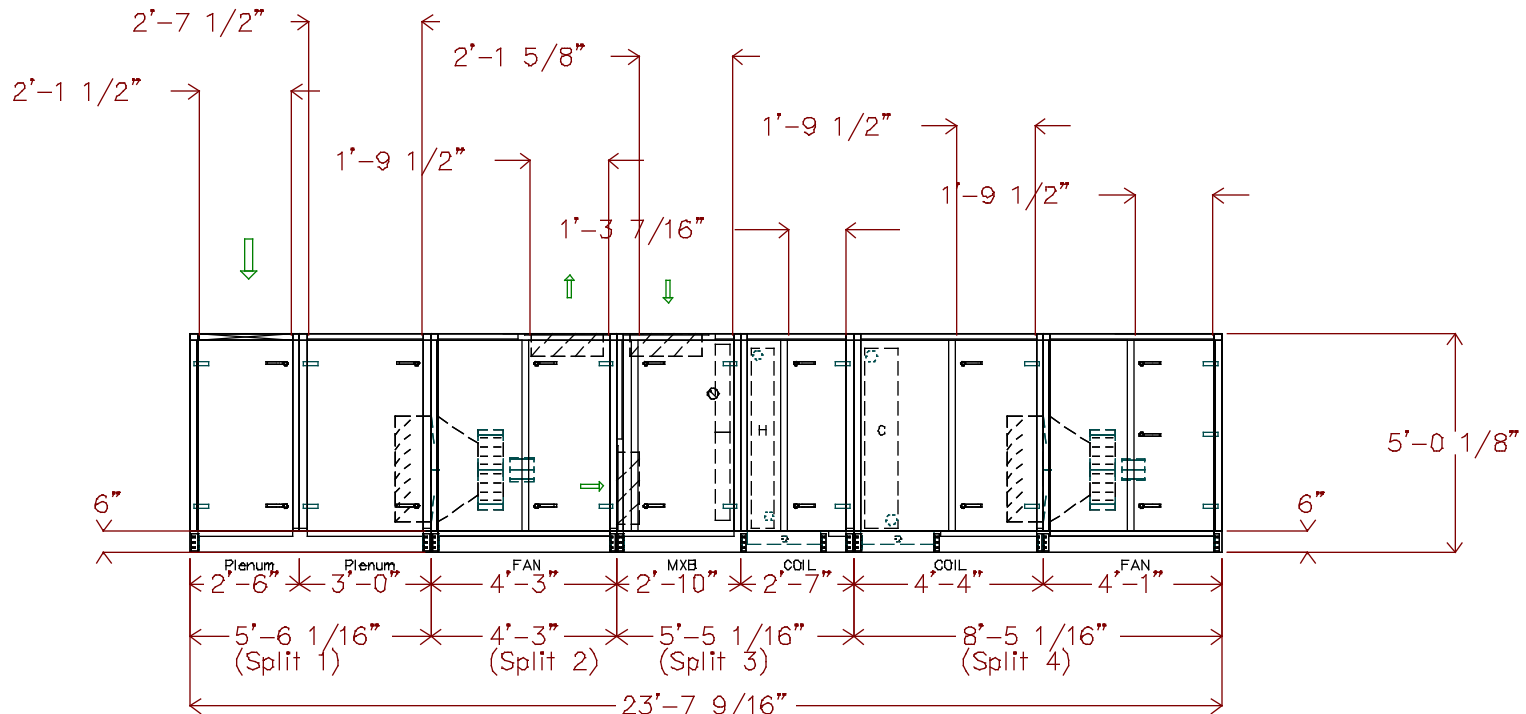


Unit width: 8'-9 11/16" (plus lifting lugs)
 Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM
 2In. Flat Filter
 Qty (10) 20in. x 24in.
 Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan
 10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 7674.0 lbs.
 Upstream Corner Weight (each): 1721.0 lbs.
 Downstream Corner Weight (each): 2116.0 lbs.



Split	Airway Length	Weight (lbs.)
(Split 1)	5'-6 1/16"	1116
(Split 2)	4'-3"	1467
(Split 3)	5'-5 1/16"	1746
(Split 4)	8'-5 1/16"	3345



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 30W CMS Hidden Valley, Grier, Newell: AHU-8 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	---------------------------

Unit viewed from right side of side elevation view.

Unit length: 23'-7 9/16"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

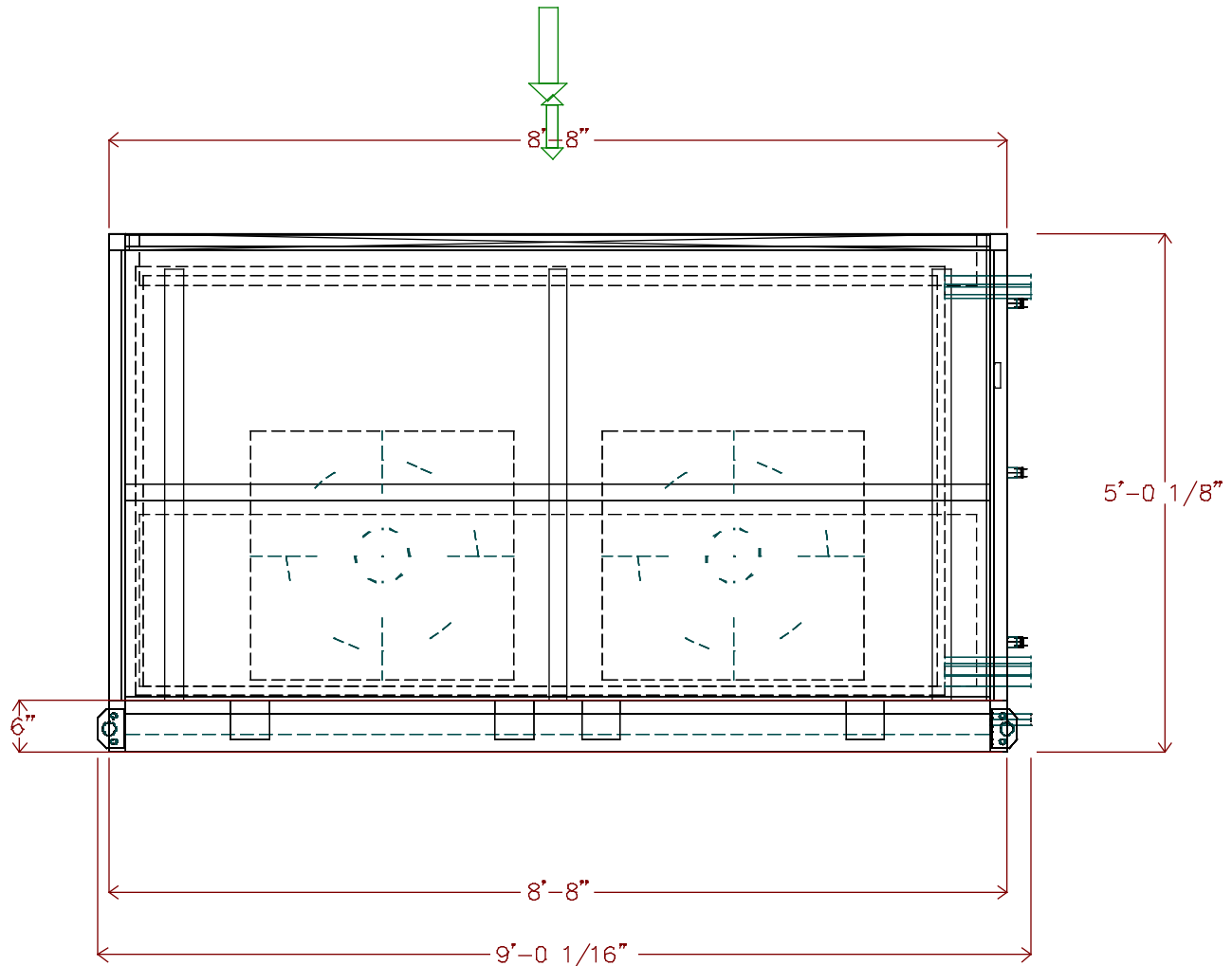
Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 7674.0 lbs.

Upstream Corner Weight (each): 1721.0 lbs.

Downstream Corner Weight (each): 2116.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-8
Assembly Drawing

REVISION
End View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 7674.0 lbs.

Upstream Corner Weight (each): 1721.0 lbs.

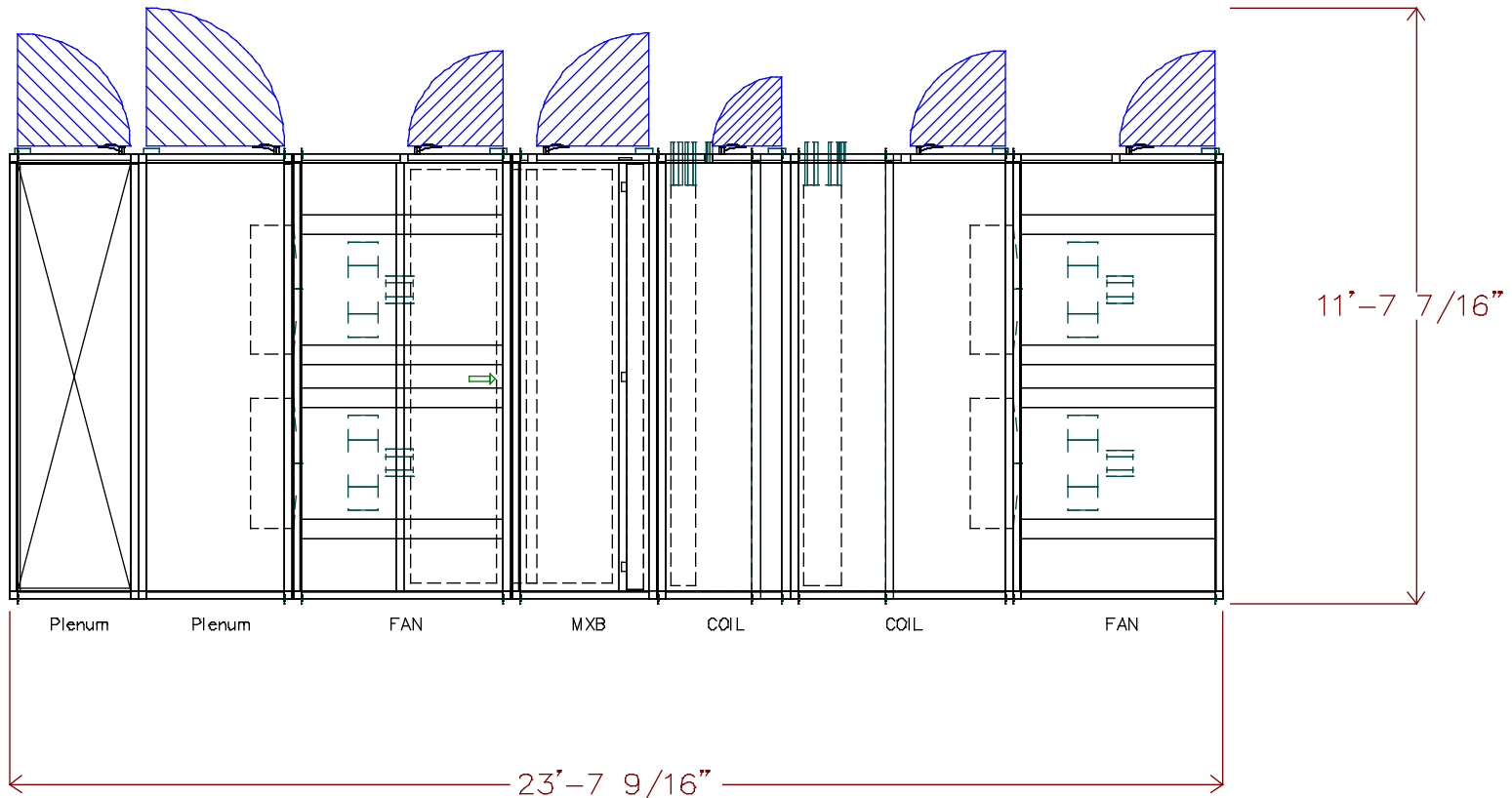
Downstream Corner Weight (each): 2116.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-8
Assembly Drawing

REVISION
Top View

Unit height: 5'-0 7/8"

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM

2In. Flat Filter

Qty (10) 20in. x 24in.

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

Draw-Thru Supply Fan

10 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 7674.0 lbs.

Upstream Corner Weight (each): 1721.0 lbs.

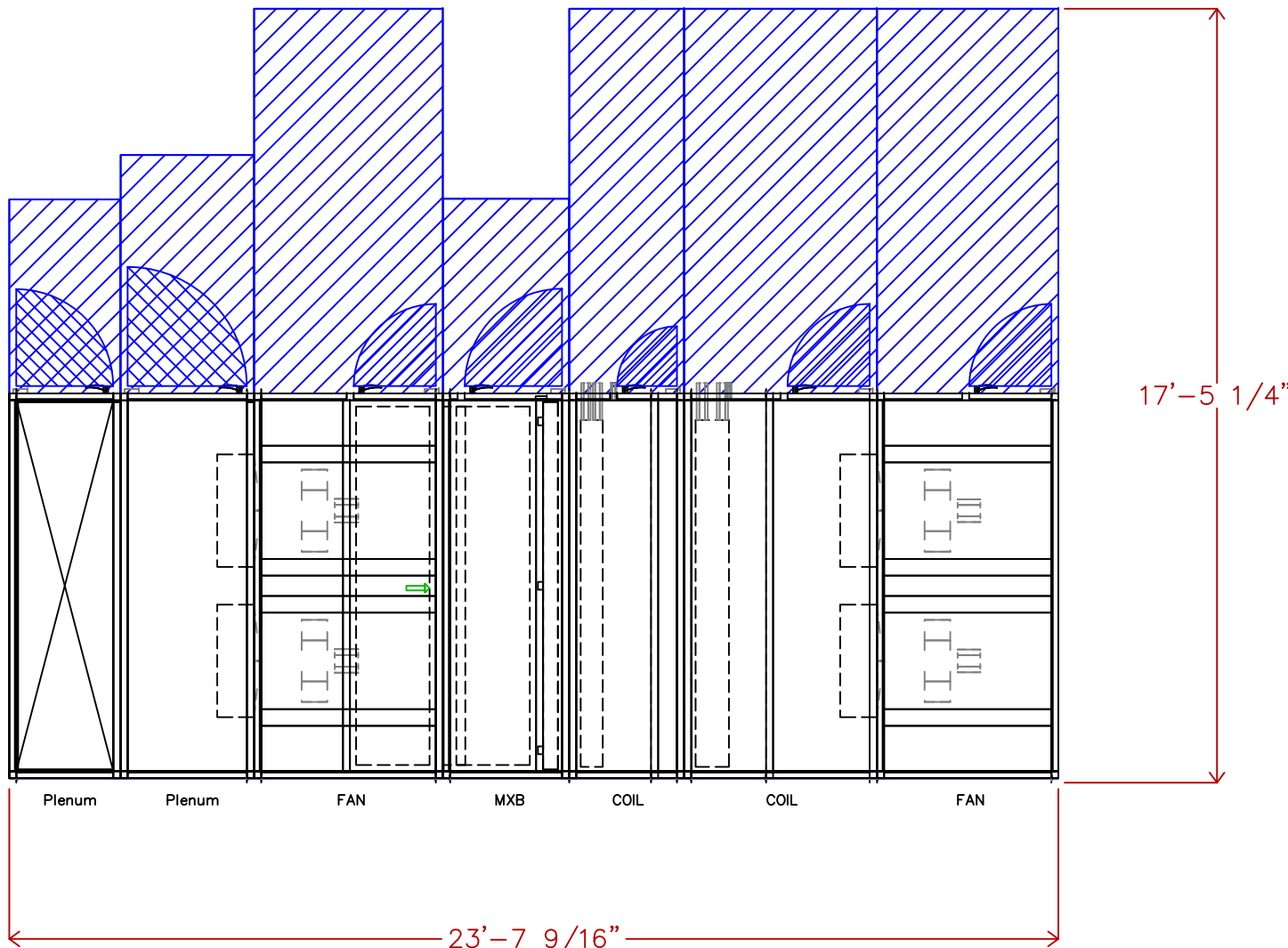
Downstream Corner Weight (each): 2116.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-8
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 8 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Double Circuit (qty. 1)

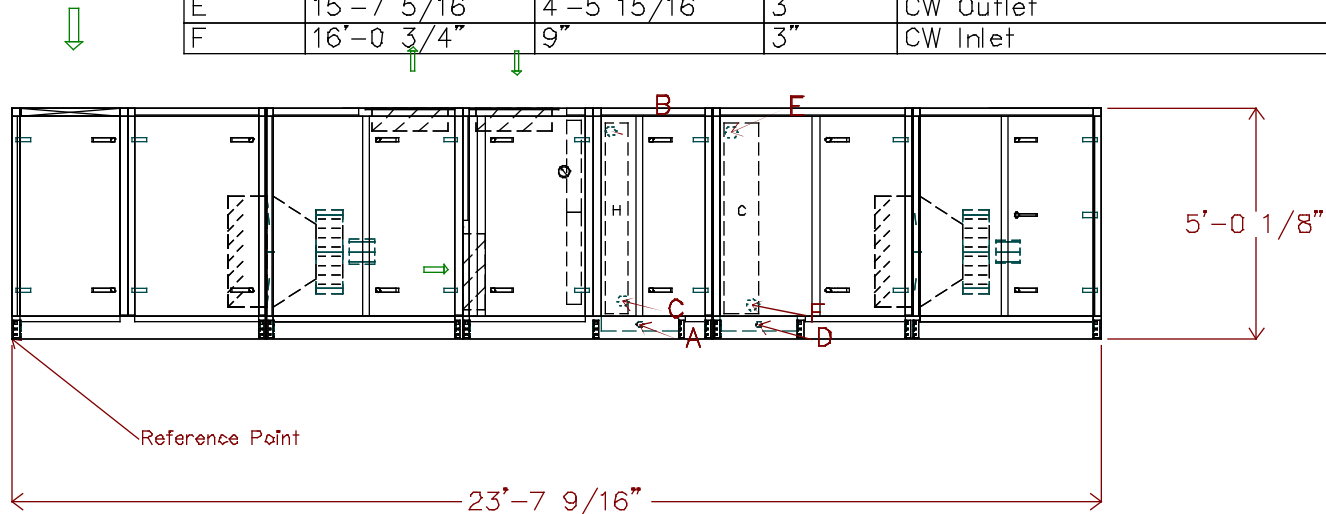


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	13'-7 3/8"	3 13/16"	1 1/2"	DrainPan
B	12'-11 7/8"	4'-6 3/16"	2 1/2"	HW Outlet
C	13'-3"	9 15/16"	2 1/2"	HW Inlet
D	16'-2 1/2"	3 13/16"	1 1/2"	DrainPan
E	15'-7 5/16"	4'-5 15/16"	3"	CW Outlet
F	16'-0 3/4"	9"	3"	CW Inlet



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
 CMS Hidden Valley, Grier, Newell: AHU-8
 Assembly Drawing

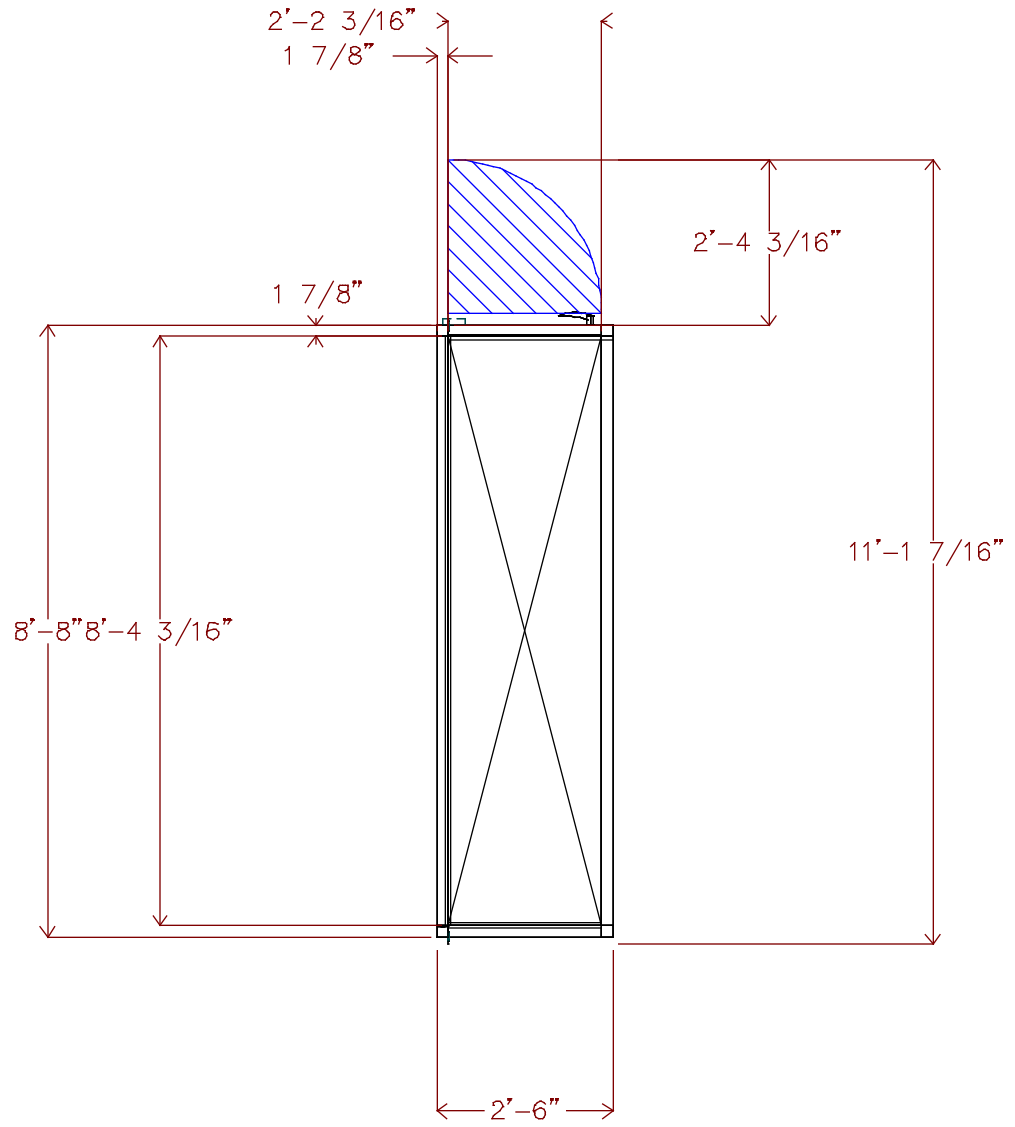
REVISION
Side View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-8
Turning Plenum

REVISION
Top View

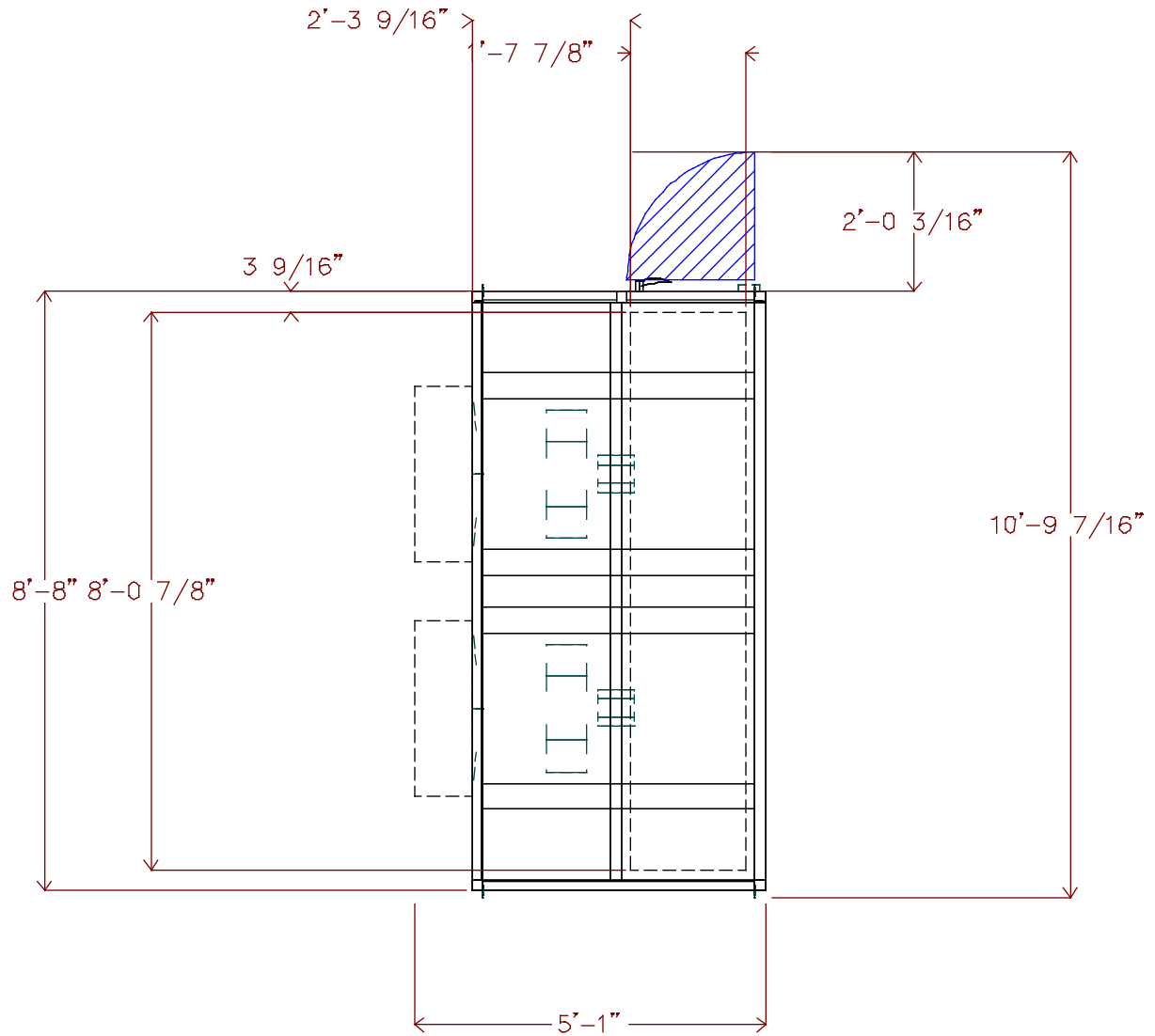
Return Fan
 3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

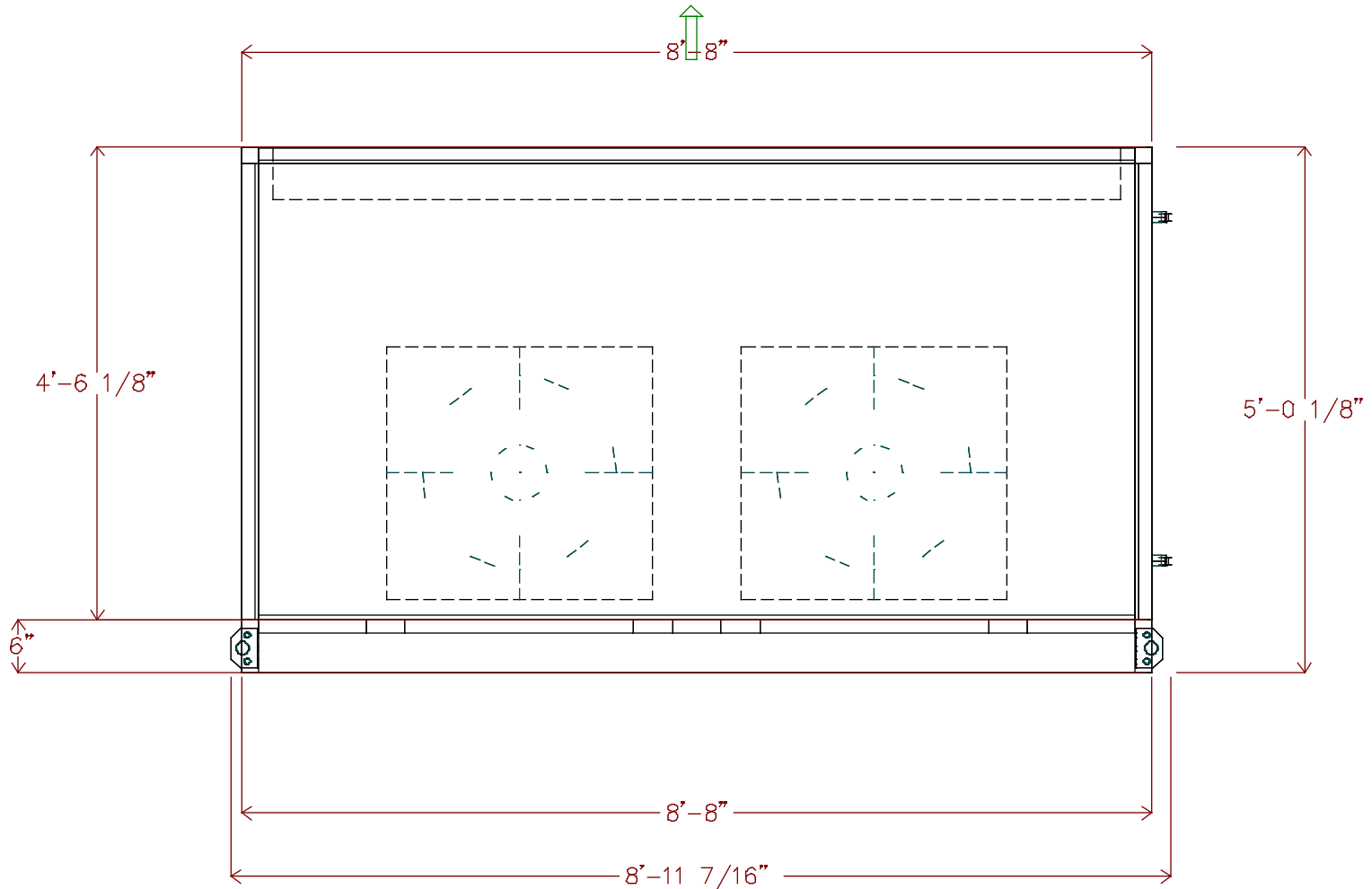
39M Central Station Air-Handler, Size 30W
 CMS Hidden Valley, Grier, Newell: AHU-8
 Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

3 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1200 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

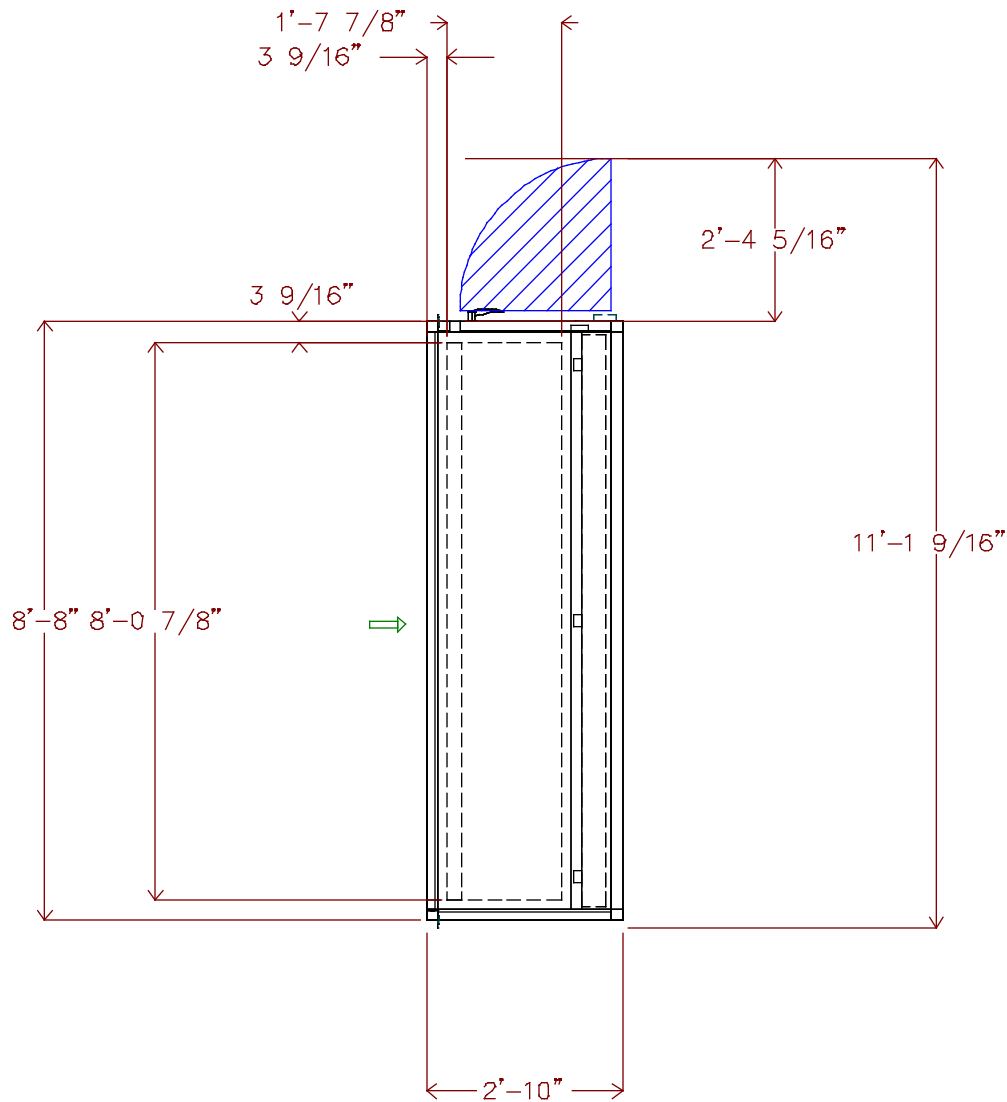
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-8
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (10) 20in. x 24in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 30W CMS Hidden Valley, Grier, Newell: AHU-8 Filter Mixing Box	REVISION Top View
-------------------	----------------------	---	----------------------

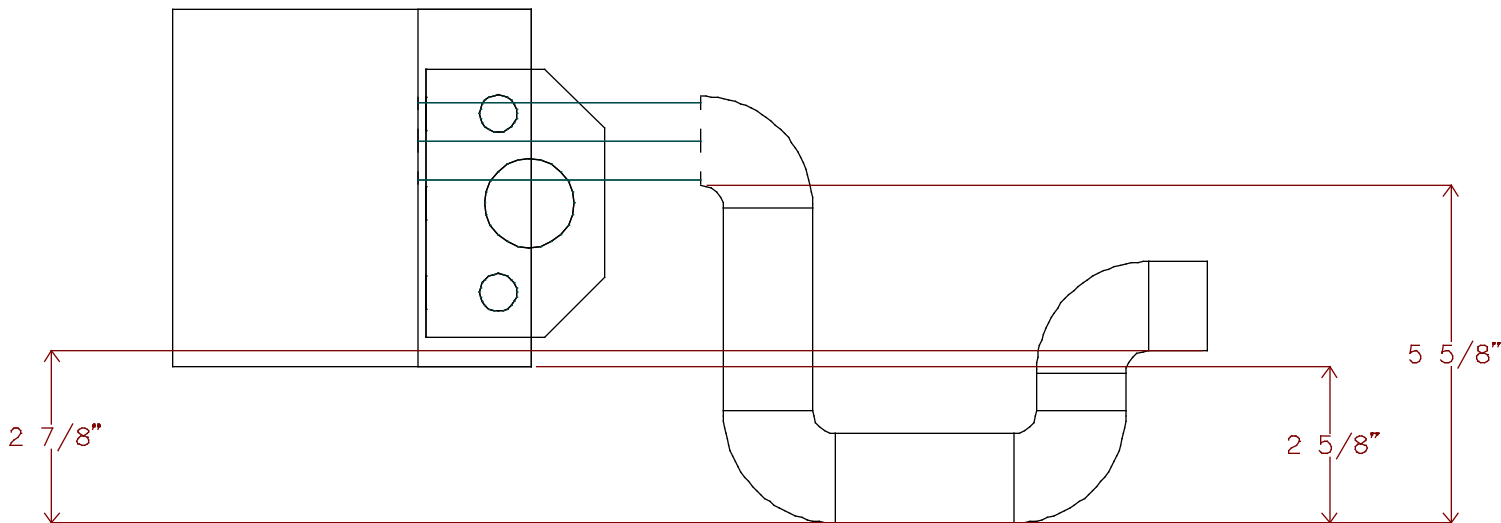


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 30W
CMS Hidden Valley, Grier, Newell: AHU-8
Condensate Trap Dimensions

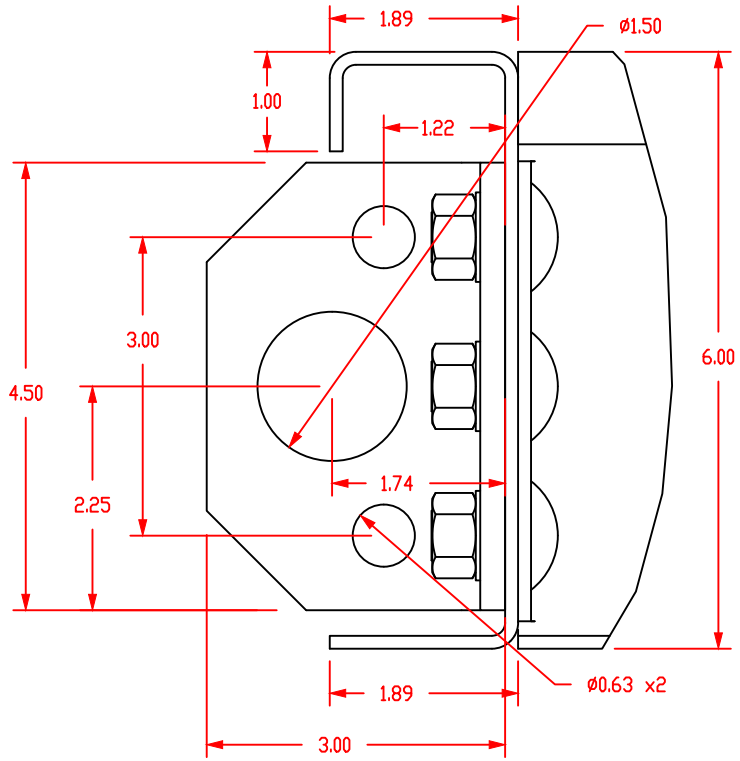
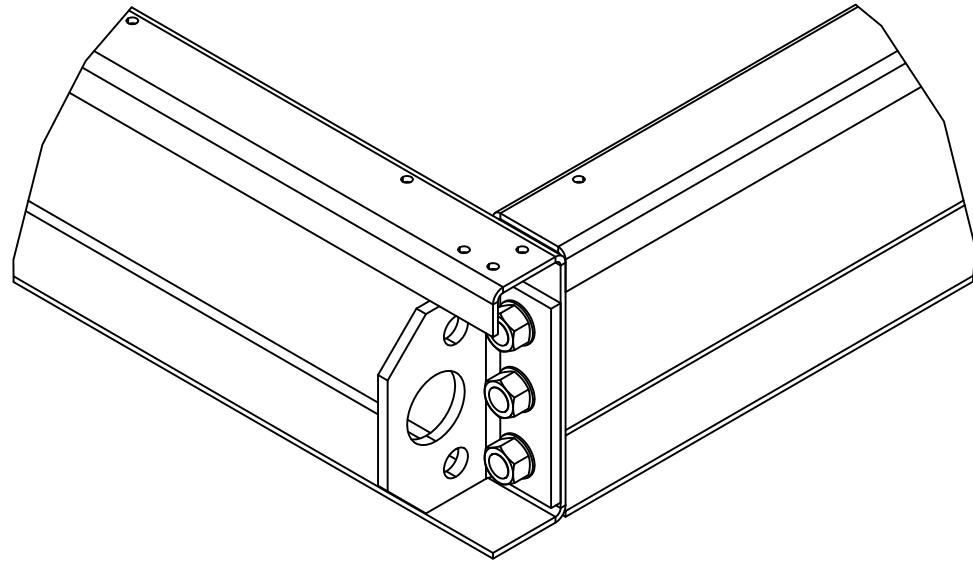
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M

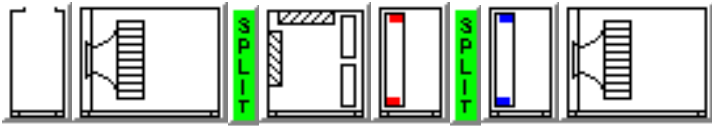


DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION



Unit Parameters

Aero Indoor Air Handler

39MN Size 12W

Insulation: R-13 Double Wall Sealed Panel

Exterior Finish: Painted Exterior Panels 18ga

Interior Finish: Galvanized Interior Panels

Level I Thermal Break

6 inch tall Base Rail

Turning Plenum

Discharge : Top

Door Right Side

Return Fan

Shipping Split After

Damper: Top Premium Parallel

Rear Inlet

Fan Sled

Plenum Fan A PDLA01182

Direct Drive Fan

1981 fanRPM Class II

Full Open Discharge

Spring Fan Isolation

Motor Shaft Grounding

Motor

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 145T

Motor Shaft Diameter (in.) - 0.875

Voltage Selected - 460/3/60

Full Load Amps - 2.9

Efficiency - 86.5%

Door Right Side

Filter Mixing Box

Damper: Rear Premium Parallel

Damper: Top Premium Parallel

2In. Flat Filter

Field Supplied 2in. MERV 8 Throwaway Filter

Construction Filters
Qty (6) 16in. x 20in.

Door Right Side
Minihelic Differential Pressure Gage 0-2" w.c. Right Side

Hot Water Coil and Plenum

Shipping Split After
304 Stainless Steel Drain Pan Right Side
Hot Water 12.64 sq.ft 1 Row 11 FPI Half Circuit
Coil Connection Right Side
1/2 in. Tube Diameter
Fin Thickness: 0.0060
AL fins Galv. Casing
Steel Header
No Coating
Door Right Side

Chilled Water Coil and Plenum

304 Stainless Steel Drain Pan Right Side
Chilled Water 12.64 sq.ft 8 Row 14 FPI Full Circuit
Coil Connection Right Side
1/2 in. Tube Diameter
AL fins Galv. Casing
Steel Header
No Coating
Door Right Side

Draw-Thru Supply Fan

Rear Inlet

Fan Sled

Plenum Fan B PDLA01200

Direct Drive Fan
2055 fanRPM Class II

Field Supplied Discharge
Spring Fan Isolation
Motor Shaft Grounding

Motor
7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Manufacturer - Generic

Frame Size - 213T

Motor Shaft Diameter (in.) - 1.375

Voltage Selected - 460/3/60

Full Load Amps - 9.5

Efficiency - 91.7%

Door Right Side

Configuration Notes

Job Name CMS Hidden Valley, Grier, Newell
Mark for AHU-9

Preheat coil configurations can cause freezstat to trip if the downstream cooling coil isn't drained in heating season and/or PID valve control loop is too slow to react.

If a bottom connection is required, use an Inlet Plenum Section.

If a bottom connection is required, use a Discharge Plenum Section.

Discharge duct(s) must be gasketed and screwed directly to the discharge panel of the unit.

Weights and Dimensions

(LxWxH in ft in) 17' 0" x 5' 8" x 3' 11" **

Operating 3458 LB **

Warranty Part Number(s) (NET PRICING)

Qty 1 Each Additional 39 Series Start-up

Qty 1 2nd Year Parts only 39M - Size 10 - 17

Weights and Dimensions are approximate. Weights include base unit weight, coils (wet & dry), fans and fan motors, and other components, but does not include filters, drives and skids. Approximate dimensions are provided primarily for shipping purposes. Shipping skids are not included.
All filter media efficiency ratings are for the filter media only.

Chilled Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-9

Cooling Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MC
1
8 / 14 / FL
.0042 in
Sine Wave
Large
12.64 sqft
474.7 fpm
Al-Galv.
0.5 in
1.25 x 0.781 in
0.016 in
6000 CFM
0 ft
5785 SCFM
278.52 MBH
185.90 MBH
45.4 gpm
5.8 ft wg
2.8 ft/s
44.00 F
56.23 F
12.2 F
80.00 F
67.00 F
31.50 BTU/lb
50.77 F
50.77 F
20.7 BTU/lb
1.05 in wg
FW
0 %
0.0 (hr-sqft-F)/BTU



Actual Airflow	6000	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	5785	SCFM
Total Cooling Capacity	278.52	MBH
Sensible Cooling Capacity	185.90	MBH
Fluid Flow Rate	45.4	gpm
Fluid Pressure Drop	5.8	ft wg
Fluid Velocity	2.8	ft/s
Entering Fluid Temperature	44.00	F
Leaving Fluid Temperature	56.23	F
Fluid Temperature Rise	12.2	F
Entering Air Dry Bulb	80.00	F
Entering Air Wet Bulb	67.00	F
Entering Air Enthalpy	31.50	BTU/lb
Leaving Air Dry Bulb	50.77	F
Leaving Air Wet Bulb	50.77	F
Leaving Air Enthalpy	20.7	BTU/lb
Air Friction	1.05	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Hot Water Coil Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-9

Heating Application's Balance Criteria: Fluid Flow

Coil Model _____
 Number of Coils _____
 Row / FPI / Circ _____
 Fin Thickness _____
 Fin Type _____
 Face Area Type _____
 Coil Face Area _____
 Face Velocity _____
 Fin-Casing Material _____
 Tube Diameter _____
 Tube spacing: Stf x Str _____
 Tube Wall Thickness _____

Carrier 28MH	1	
1 / 11 / HF		
.0060	in	
Sine Wave		
Large		
12.64	sqft	
474.7	ft/m	
Al-Galv.		
0.5	in	
1.25 x 0.781	in	
0.016	in	
Actual Airflow	6000	CFM
Site Altitude	0	ft
Standard Airflow (adj. to std. dry atmosphere)	6057	SCFM
Heating Capacity	120.83	MBH
Fluid Flow Rate	6.0	gpm
Fluid Pressure Drop	0.2	ft wg
Fluid Velocity	0.7	ft/s
Entering Fluid Temperature	160.00	F
Leaving Fluid Temperature	118.86	F
Fluid Temperature Drop	41.1	F
Entering Air Temperature	65.00	F
Leaving Air Temperature	83.24	F
Air Friction	0.21	in wg
Brine	FW	
Brine Concentration	0	%
Fouling Factor	0.0	(hr-sqft-F)/BTU



Actual Airflow _____
 Site Altitude _____
 Standard Airflow (adj. to std. dry atmosphere) _____
 Heating Capacity _____
 Fluid Flow Rate _____
 Fluid Pressure Drop _____
 Fluid Velocity _____
 Entering Fluid Temperature _____
 Leaving Fluid Temperature _____
 Fluid Temperature Drop _____
 Entering Air Temperature _____
 Leaving Air Temperature _____
 Air Friction _____
 Brine _____
 Brine Concentration _____
 Fouling Factor _____

NOTE: Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory (www.ahrirectory.org).

LEGEND:

- Stf -- Tube spacing across coil face
- Str -- Tube spacing in direction of airflow

Unit Acoustics Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-9

Unit Acoustics Sound Power Level:

	Discharge Inlet Casing		
63 Hz	88	84	81
125 Hz	88	83	80
250 Hz	91	91	88
500 Hz	87	86	81
1000 Hz	82	77	74
2000 Hz	82	74	70
4000 Hz	80	74	70
8000 Hz	77	71	67

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz	62	57	55
125 Hz	72	67	64
250 Hz	83	83	79
500 Hz	84	83	78
1000 Hz	82	77	74
2000 Hz	83	76	71
4000 Hz	81	75	71
8000 Hz	76	70	65

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Sound contributed by Supply and Return Fans

Unit Acoustics PART-LOAD Sound Power Level:

	Discharge Inlet Casing		
63 Hz	86	83	80
125 Hz	84	82	78
250 Hz	86	89	84
500 Hz	82	84	79
1000 Hz	79	76	71
2000 Hz	78	72	67
4000 Hz	76	72	66
8000 Hz	72	69	63

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

Unit Acoustics PART-LOAD A-weighted Sound Power Level:

	Discharge Inlet Casing		
63 Hz	60	57	54
125 Hz	67	66	62
250 Hz	78	81	76
500 Hz	78	81	75
1000 Hz	79	76	71
2000 Hz	79	73	68
4000 Hz	77	73	67
8000 Hz	71	68	62

Sound power levels for 39M units are rated in accordance with AHRI Standard 260.

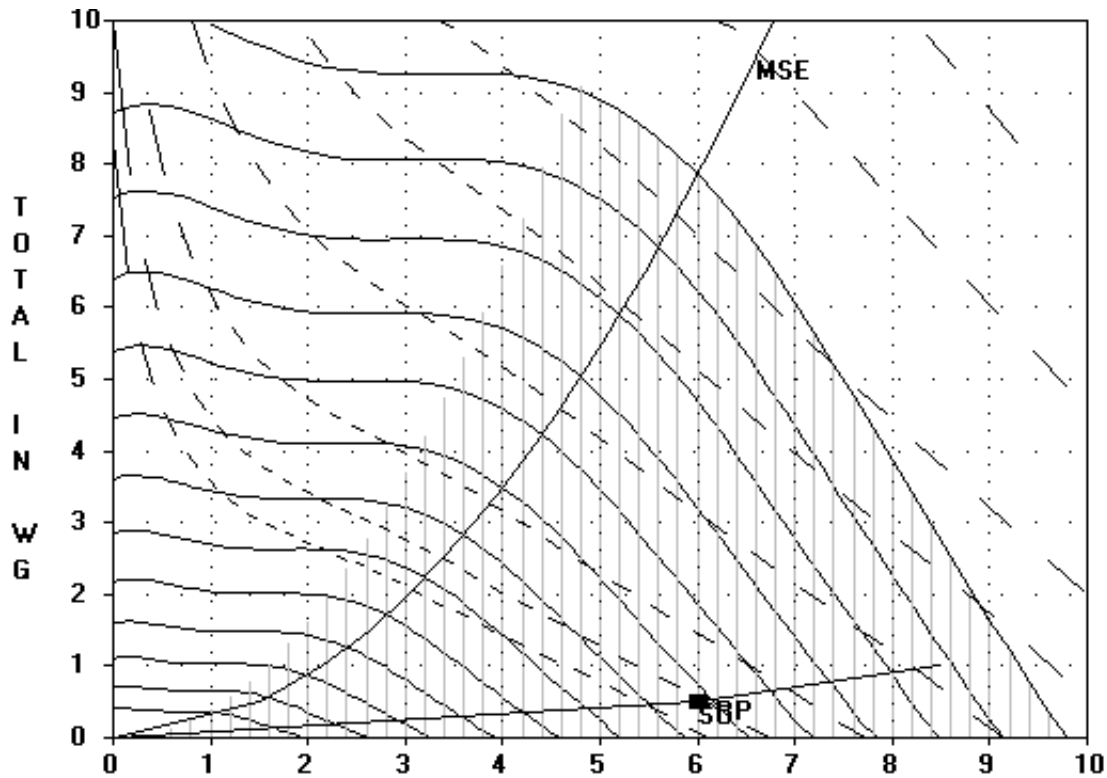
Sound contributed by Supply and Return Fans

Return Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-9

Fan Model	39M1201HPDL
Unit Size	12W
Fan Type	DIRECT DRIVE PLENUM (Return)
Fan Wheel Diameter	18.2
Fan Class	II
Static Efficiency (%)	25
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	6000
Site Altitude, , ft	0
Total Upstream Static Losses, in wg	0.50
Number of Fans	1
Calculated Fan RPM / Motor RPM	1981 / 1800
Class II Max. RPM	2979
Fan BHP	1.9
Fan Electrical Power, kW	1.6

Unit is outside of the scope of AHRI Standard 430/431.



Legend: AIRFLOW (1000 CFM)

- RPM
- BHP
MSE - Max. Static Eff.
SC - System Curve
RP - Rated Point

RPM = 1981 BHP = 1.9 CLASS II MAX. RPM = 2979

RPM's (x 100, L to R): 6. 8. 10. 12. 14. 16. 18. 20. 22. 24. 26. 28. 30.

BHP's (L to R): 1.5 2 3 5 7.5 10 15 20

Supply Fan Performance Summary

Project: CMS Hidden Valley, Grier, Newell
 Tag: AHU-9

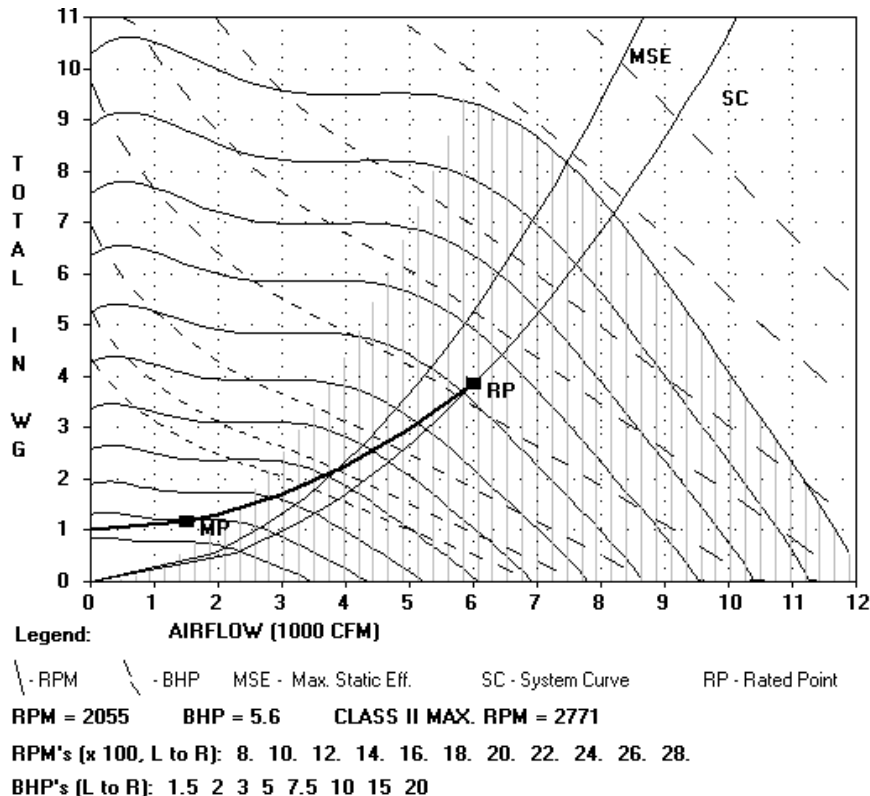
Fan Model	39M1201HPDL-U
Unit Size	12W
Fan Type	DIRECT DRIVE PLENUM
Fan Wheel Diameter	20
Fan Class	II
Fan Application	Draw Thru
Orientation	Horizontal
Actual Airflow, CFM	6000
Site Altitude, ft	0
Upstream Ext. Static, in wg	0.00
Downstream Ext. Static, in wg	2.25
Cooling Coil Static, in wg	1.05
Heating Coil Static, in wg	0.21
Total Accessory Static, in wg	0.34
Total Static Pressure, in wg	3.85
Calculated Fan RPM / Motor RPM	2055 / 1800
Class II Max. RPM	2771
Static Efficiency (%)	65
Number of Fans	1
Fan BHP	5.6
Fan Electrical Power, kW	4.5



Accessories:

- (1) Flat Throwaway (2 in.) [0.22]
- (1) Mixing or Exhaust Box [0.12]

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, which is based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahrirectory.org



Unit width: 5'-8 11/16" (plus lifting lugs)
 Return Fan
 2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 2In. Flat Filter
 Qty (6) 16in. x 20in.
 Hot Water 1 Row 11 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Draw-Thru Supply Fan
 7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 3459.0 lbs.
 Upstream Corner Weight (each): 823.0 lbs.
 Downstream Corner Weight (each): 907.0 lbs.

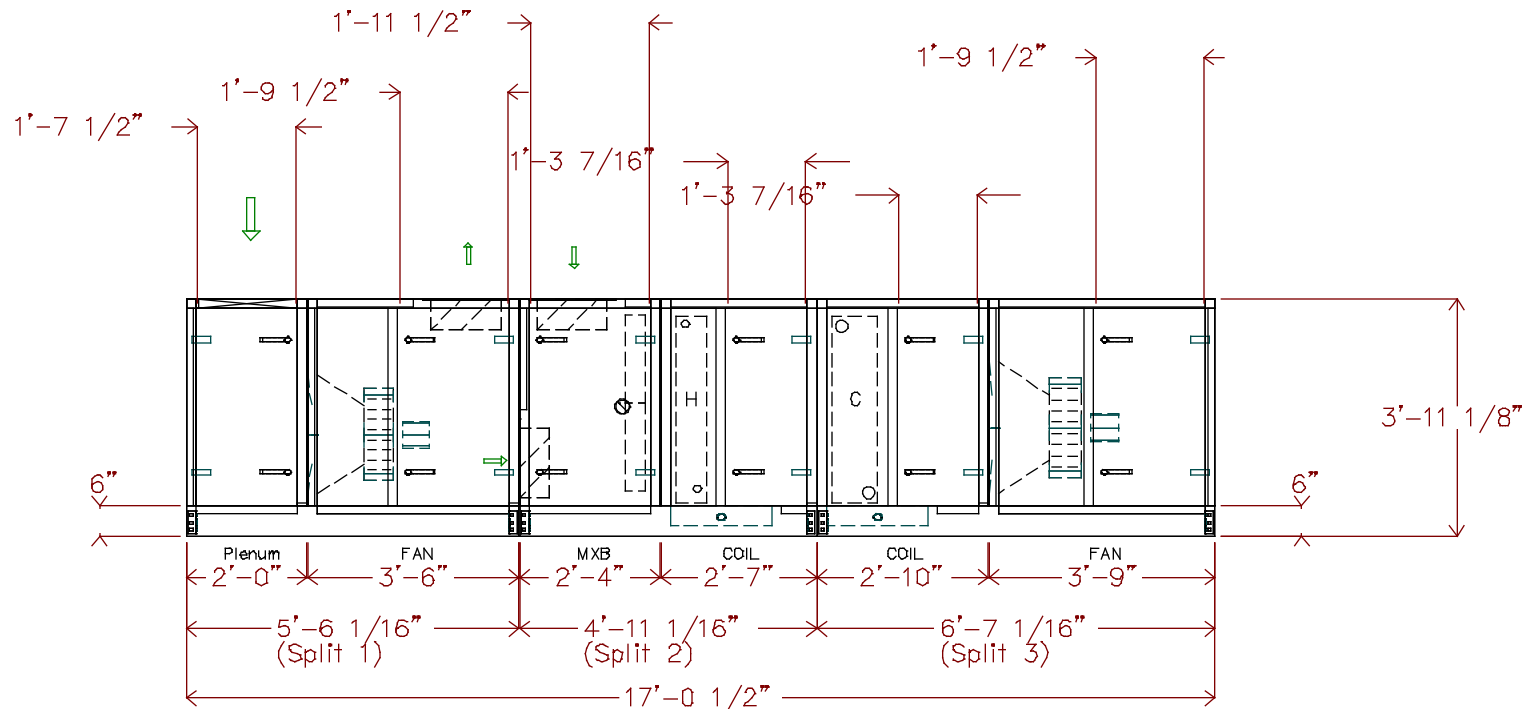


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Split	Airway Length	Weight (lbs.)
(Split 1)	5'-6 1/16"	955
(Split 2)	4'-11 1/16"	950
(Split 3)	6'-7 1/16"	1554



DATE
5/27/2022

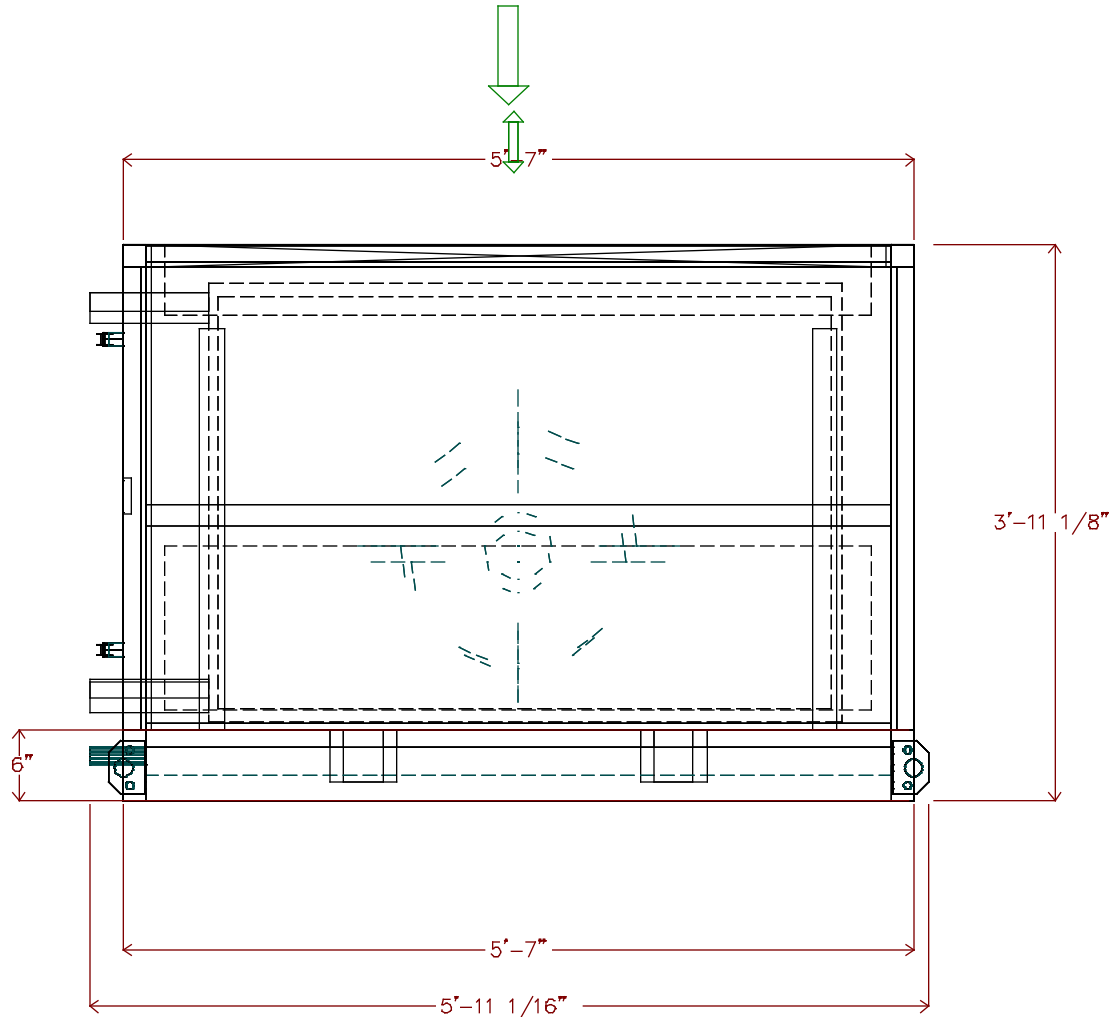
AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-9
 Assembly Drawing

REVISION
Side View

Unit viewed from right side of side elevation view.
 Unit length: 17'-0 1/2"
 Return Fan
 2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 2In. Flat Filter
 Qty (6) 16in. x 20in.
 Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)
 Draw-Thru Supply Fan
 7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM
 Operating weight: 3459.0 lbs.
 Upstream Corner Weight (each): 823.0 lbs.
 Downstream Corner Weight (each): 907.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-9
 Assembly Drawing

REVISION
End View

Unit height: 3'-11 1/8"

Return Fan

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

2in. Flat Filter

Qty (6) 16in. x 20in.

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Draw-Thru Supply Fan

7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 3459.0 lbs.

Upstream Corner Weight (each): 823.0 lbs.

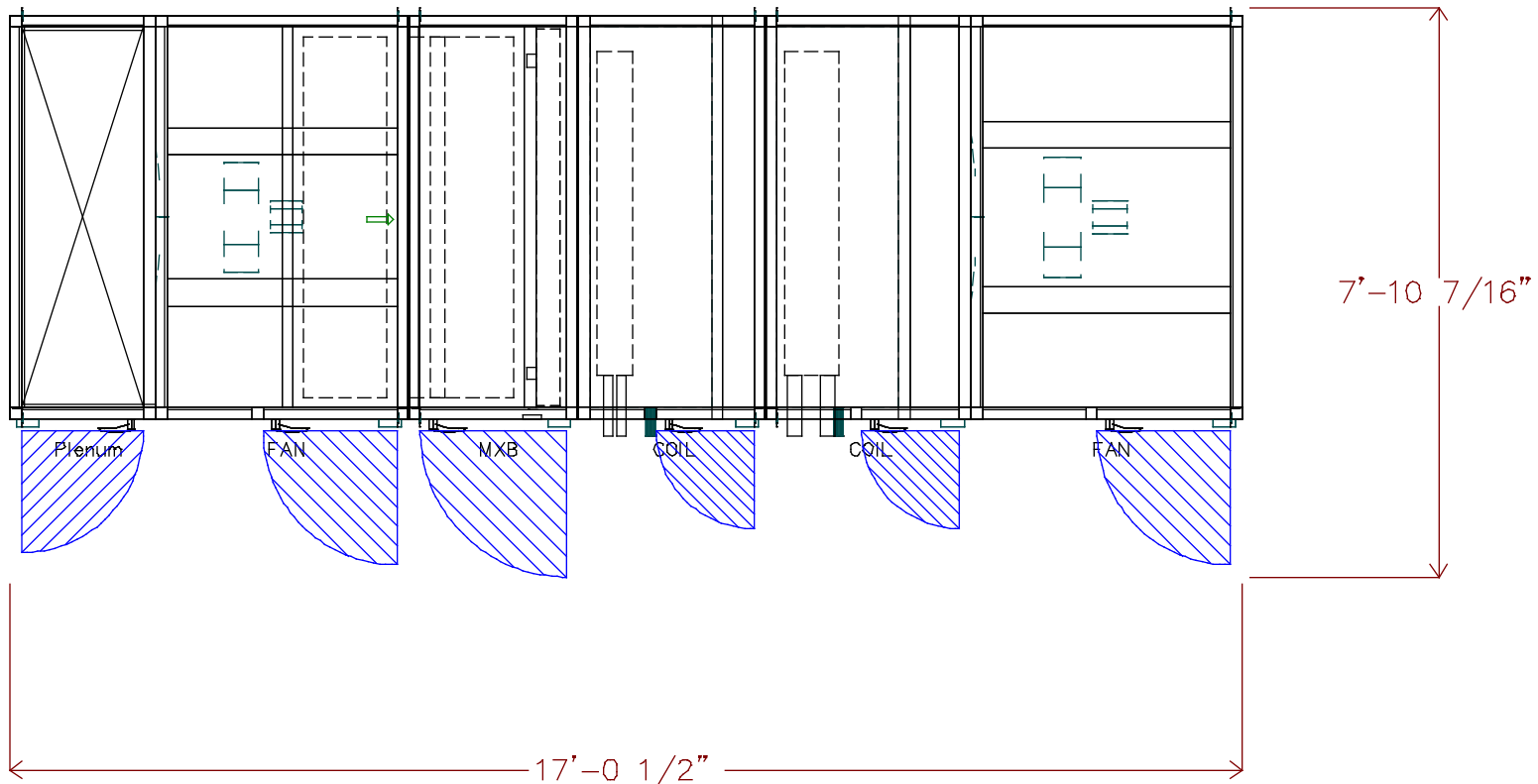
Downstream Corner Weight (each): 907.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-9
Assembly Drawing

REVISION
Top View

Unit height: 3'-11 1/8"

Return Fan

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

2In. Flat Filter

Qty (6) 16in. x 20in.

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)

Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

Draw-Thru Supply Fan

7.5 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM

Operating weight: 3459.0 lbs.

Upstream Corner Weight (each): 823.0 lbs.

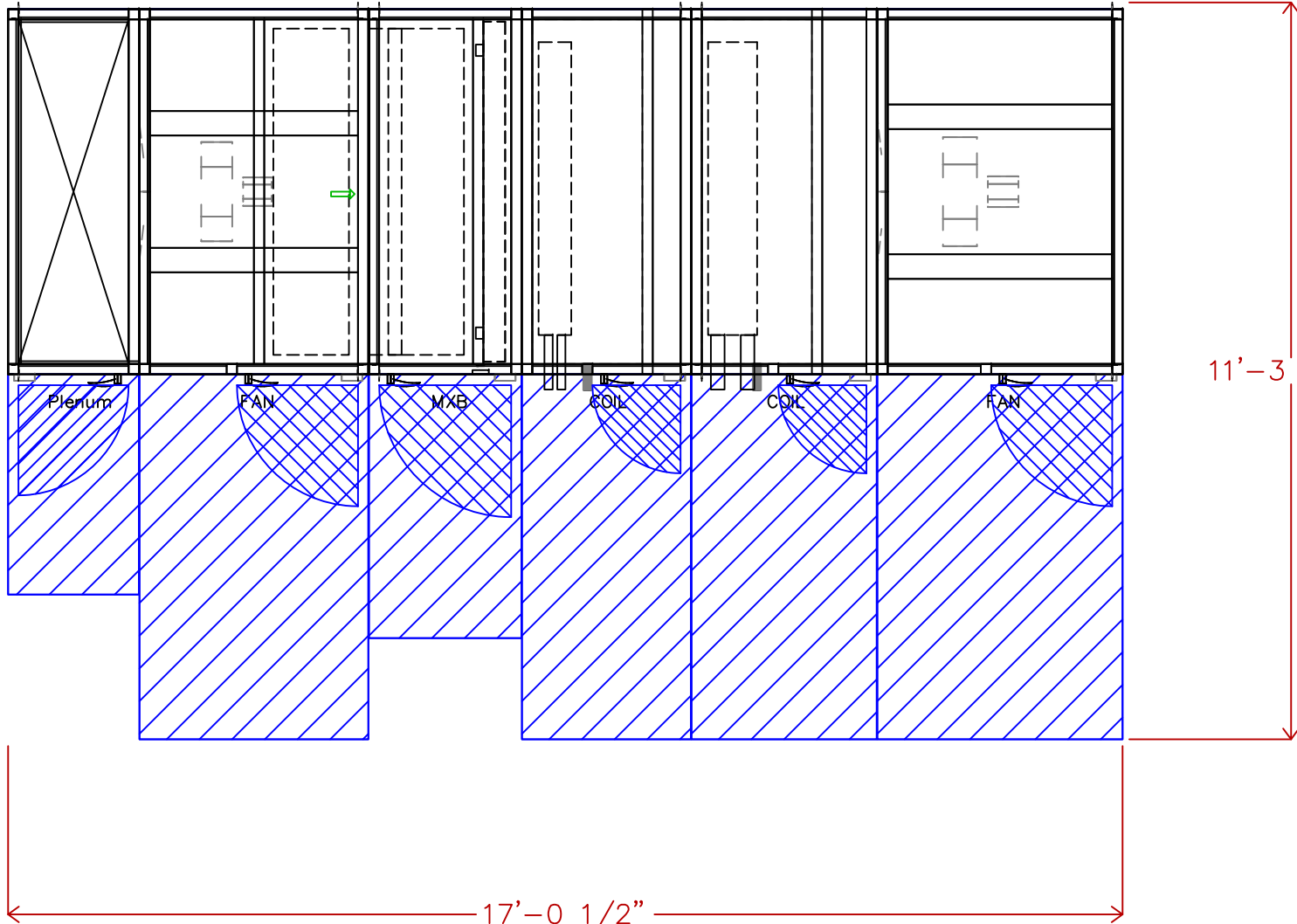
Downstream Corner Weight (each): 907.0 lbs.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



11'-3 1/4"

17'-0 1/2"

DATE
4/27/2022

AHUBuilder
v6.69I

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-9
Assembly Drawing

REVISION
Top View

Hot Water 1 Row 11 FPI Half Circuit (qty. 1)
 Chilled Water 8 Row 14 FPI Full Circuit (qty. 1)

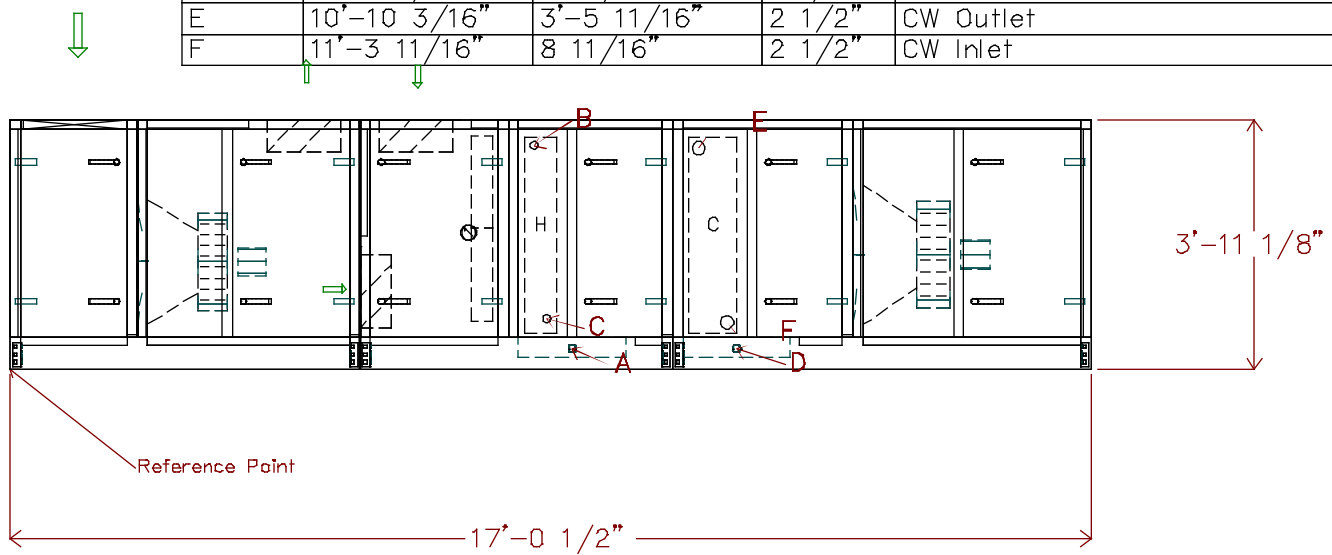


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

Pipe	x	y	diameter	Usage
A	8'-10 5/16"	3 13/16"	1 1/2"	DrainPan
B	8'-3 3/16"	3'-6 3/16"	1 1/2"	HW Outlet
C	8'-5 1/2"	9 7/16"	1 1/2"	HW Inlet
D	11'-5 3/8"	3 13/16"	1 1/2"	DrainPan
E	10'-10 3/16"	3'-5 11/16"	2 1/2"	CW Outlet
F	11'-3 11/16"	8 11/16"	2 1/2"	CW Inlet



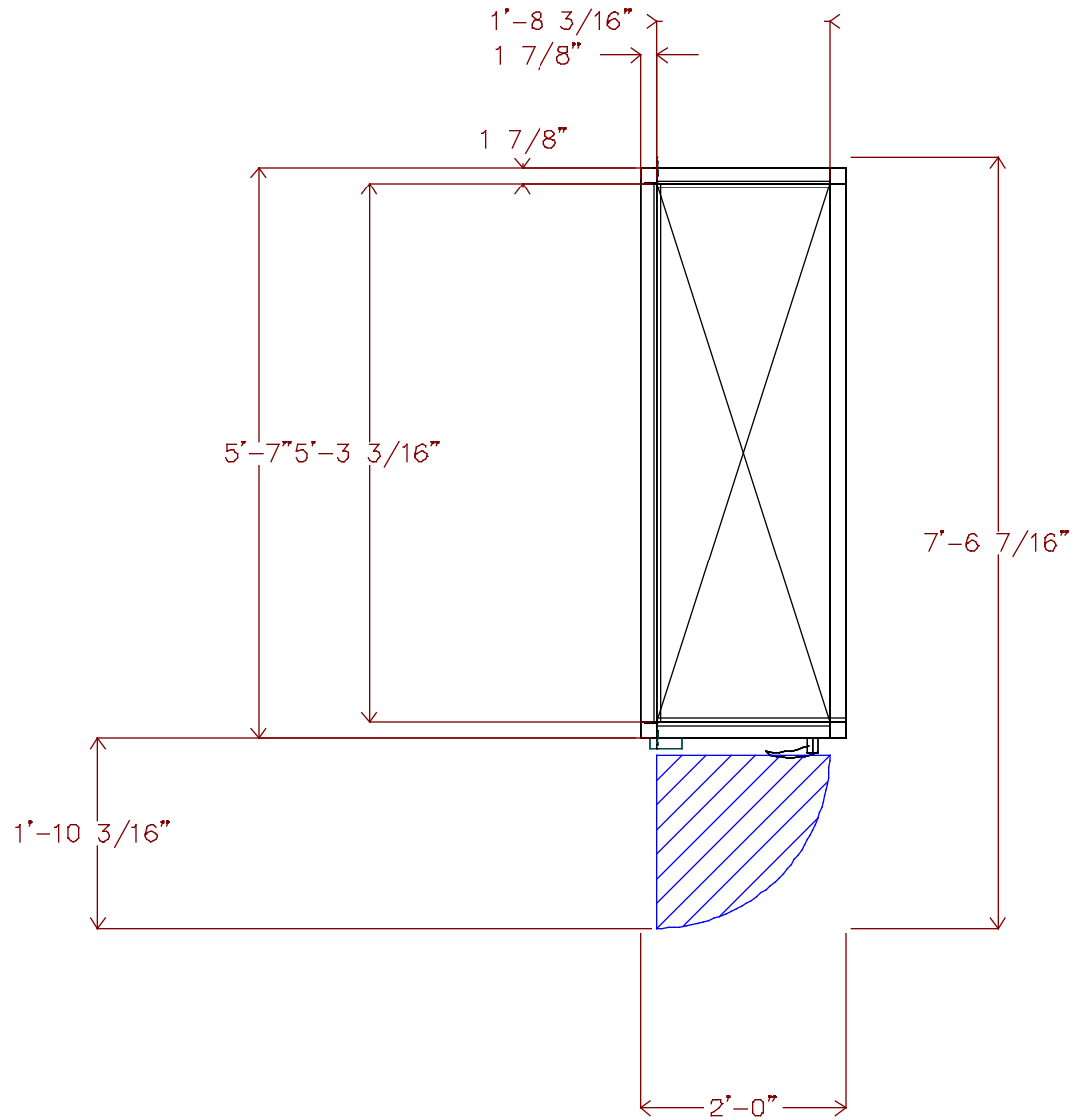
DATE 5/27/2022	AHUBuilder v6.69m	39M Central Station Air-Handler, Size 12W CMS Hidden Valley, Grier, Newell: AHU-9 Assembly Drawing	REVISION Side View
-------------------	----------------------	--	---------------------------



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN



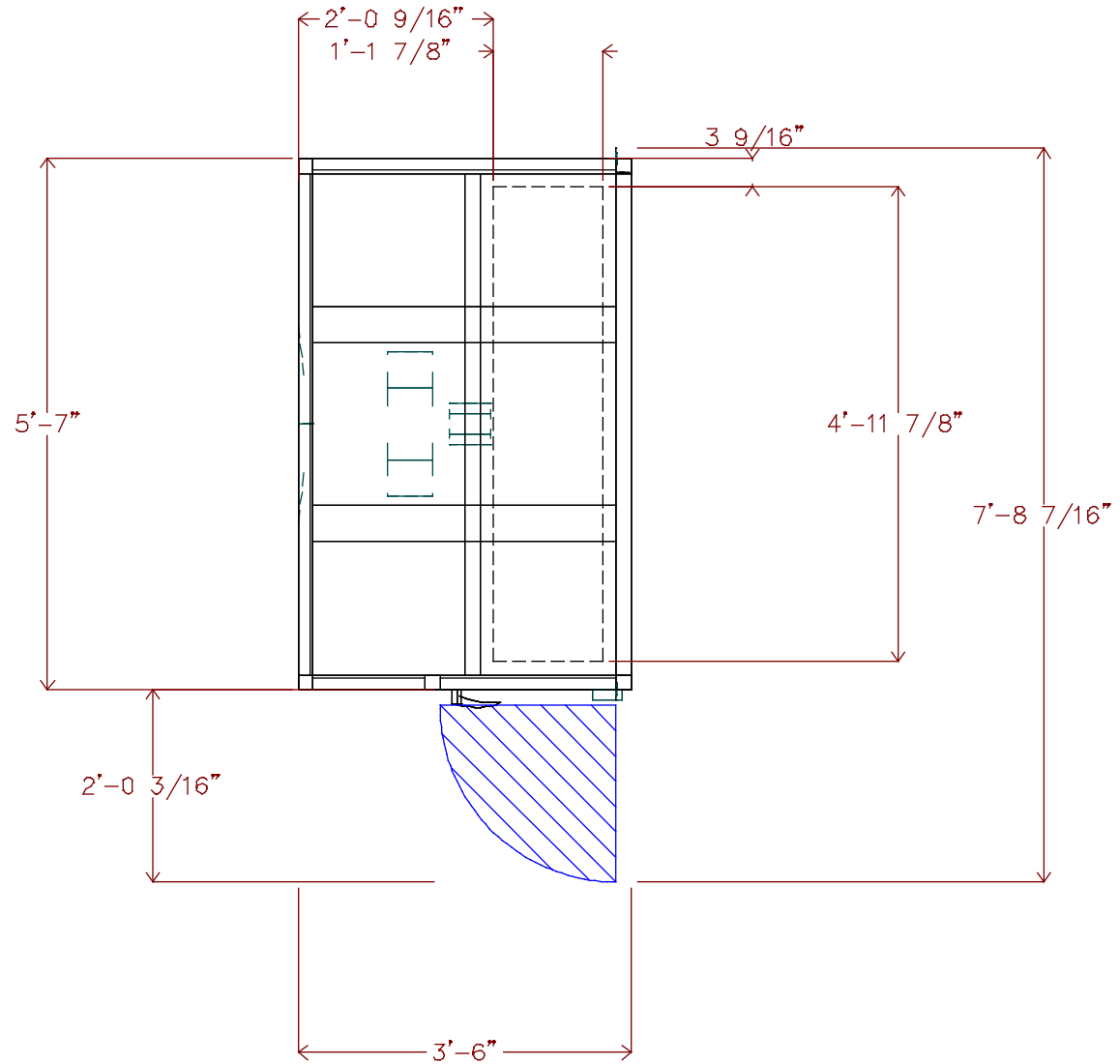
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-9
Turning Plenum

REVISION
Top View

Return Fan
 2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

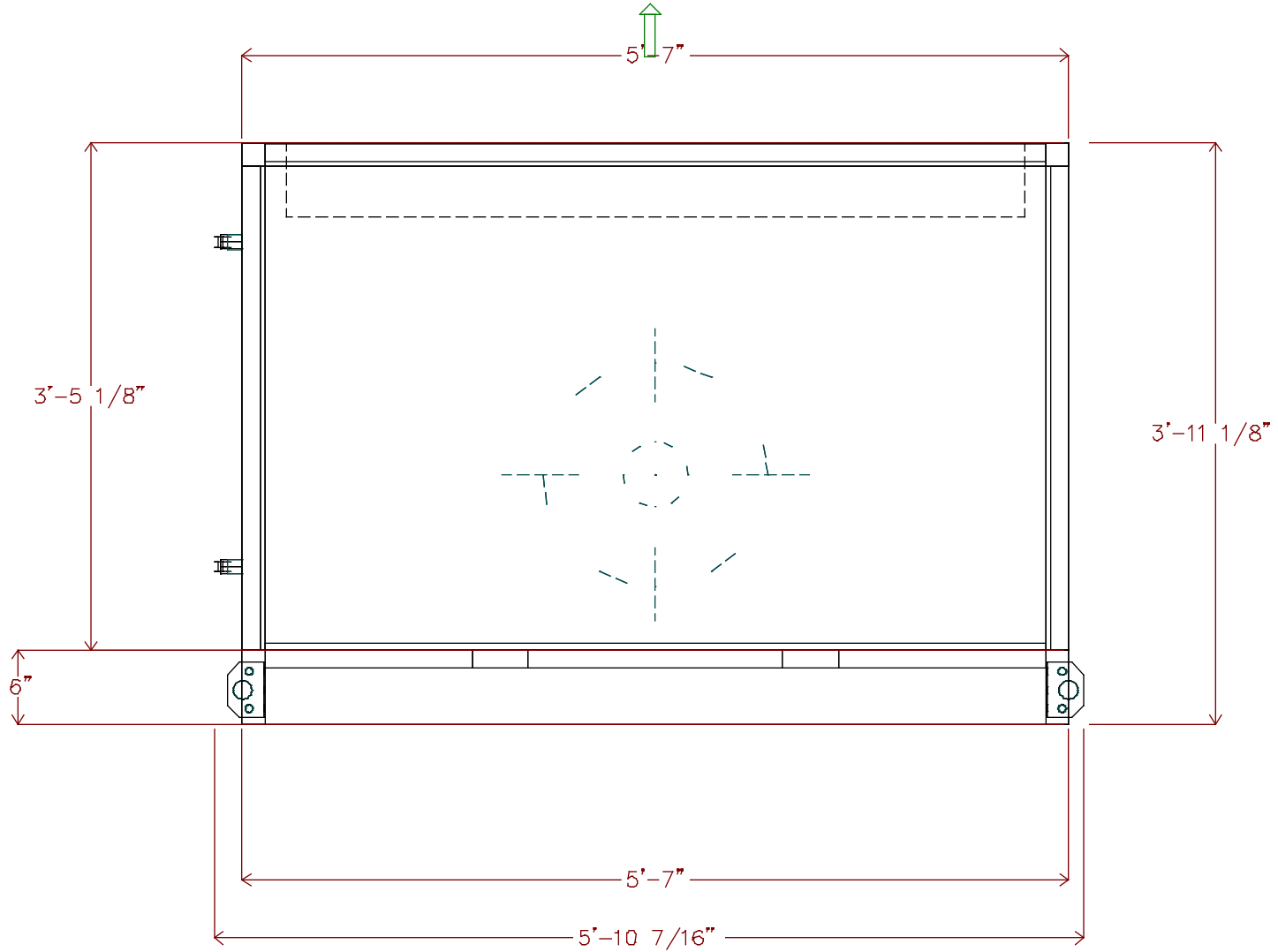
39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-9
 Return Fan

REVISION
Top View

Unit viewed from right side of side elevation view.

Return Fan

2 HP Premium Efficiency TEFC 208-230/460 3Ph 60Hz 1800 RPM



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

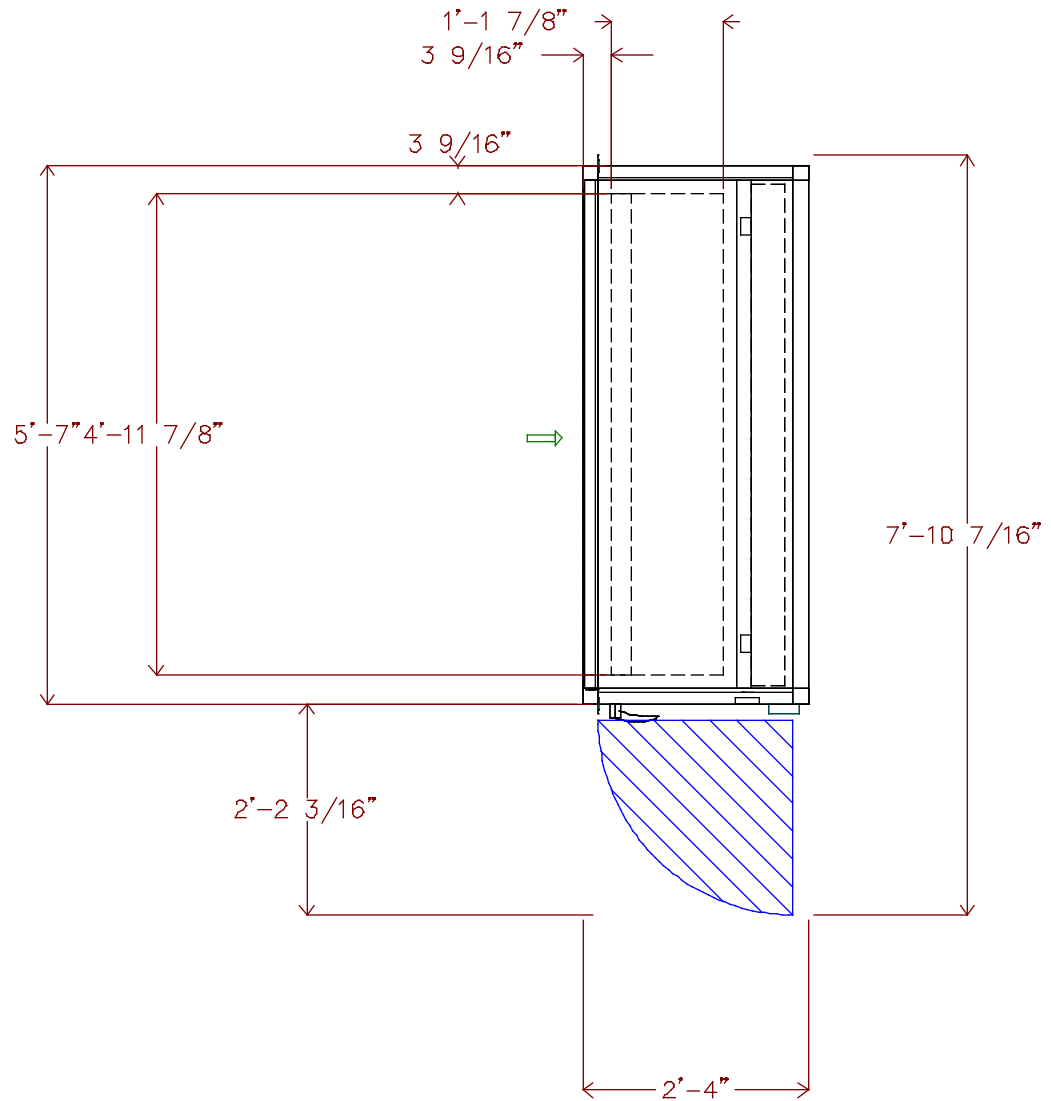
DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-9
Return Fan

REVISION
End View

2In. Flat Filter
 Qty (6) 16in. x 20in.



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
 CMS Hidden Valley, Grier, Newell: AHU-9
 Filter Mixing Box

REVISION
Top View

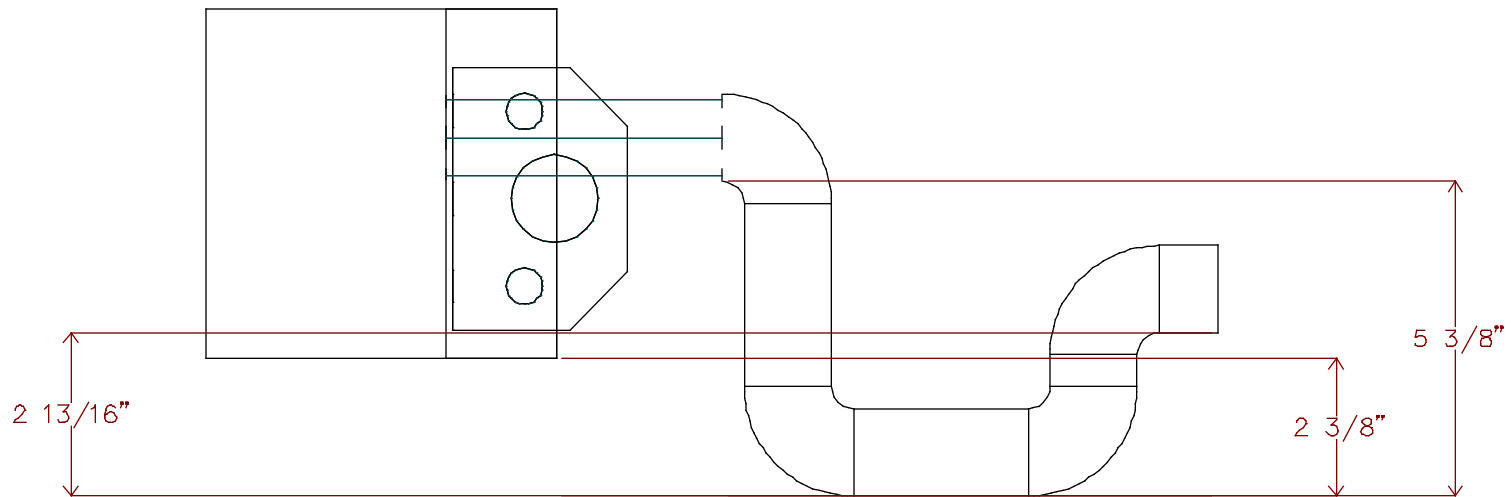


THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39MN

DRAW-THRU



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size 12W
CMS Hidden Valley, Grier, Newell: AHU-9
Condensate Trap Dimensions

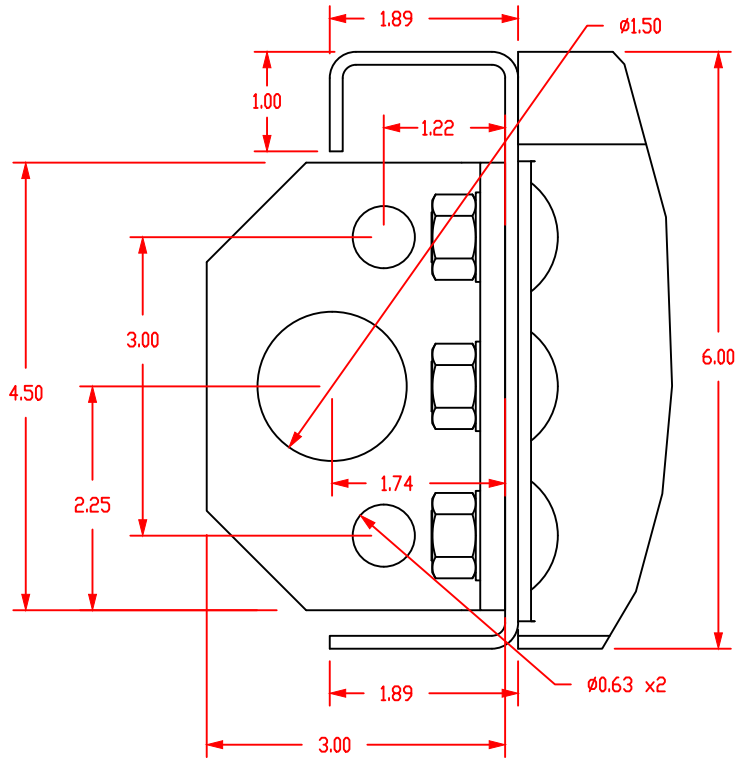
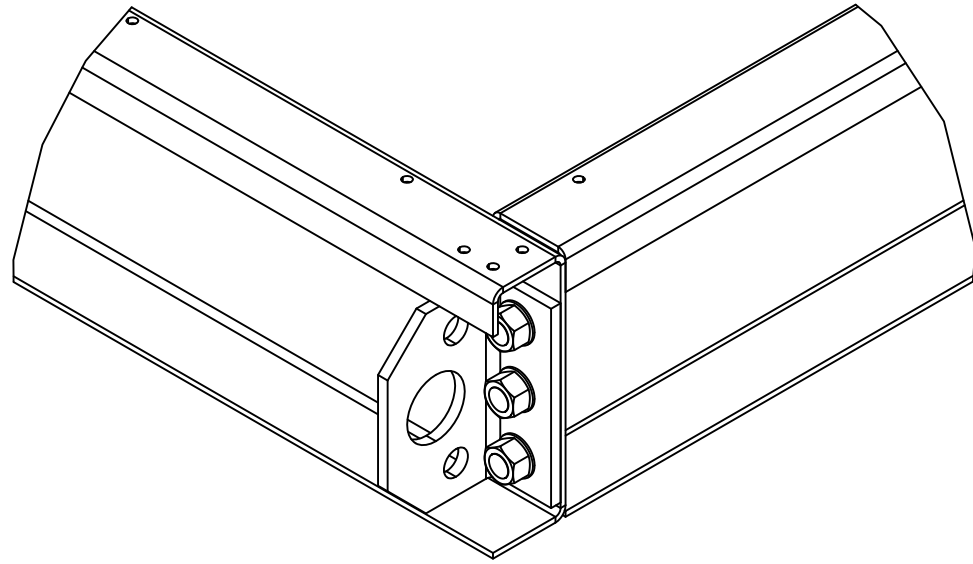
REVISION
End View



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

39M



DATE
5/27/2022

AHUBuilder
v6.69m

39M Central Station Air-Handler, Size: 03 - 110
6" Baserail and Lifting Lug Detail

REVISION