


# 20-75 Ton Packaged Industrial Rooftop

RTU-M2, PROPOSED

## Job Information

		Legacy Meridian Park Ipak Repl. J93A70059	
		Portland OR Main Office (D77)David Strasser	
Tag	ASU-15 (VSC) <b>RTU-M2</b>	Model number	SFHLF60
Nominal Capacity	60 ton Air cooled	Unit Function	Natural Gas Heat
Development Sequence	R410A Development sequence		

## Model Description

Unit airflow	H: Single Zone		
Unit Function	Natural Gas Heat	System Control	VAV (DTC) SF & EF/RF VFD w/ Bypass
Nominal Capacity	60 ton Air cooled	Outside Air Selection	0-100% Economizer
Power Supply	460/60/3	Capacity/Efficiency Options	eFlex- Variable Speed Compressors
Heating Capacity	4:1 Mod. Low Gas Heat	Filter	High-Efficiency Throwaway Filters
Exhaust/Return fan options	100% -Exhaust 15 Hp w/Statitrac	Exhaust/Return fan drive selection	700 rpm

## Cooling

Gross total capacity	721.45 MBh	Gross latent capacity	95.88 MBh
Gross sensible capacity	625.57 MBh	Net total capacity	635.69 MBh
Net sensible capacity	539.80 MBh	Net sensible heat ratio	84.92 %
Leaving coil DB	53.46 F	Leaving coil WB	52.35 F
Leaving unit DB	57.15 F	Leaving unit WB	53.87 F

## Entering Conditions

Design airflow	21000 cfm	Exhaust/Return Airflow	21000 cfm
Ambient DB	95.00 F	Cooling EDB	80.00 F
Ent air relative humidity		Cooling EWB	64.00 F
		Heating EAT	60.00 F

## Heating

Input htg capacity	500.00 MBh	Output htg capacity	400.00 MBh
Heating delta T	17.56 F	Heating LAT	77.56 F
Output htg capacity w/fan	400.00 MBh		

## Power

Supply Total Static Pressure	4.190 in H2O	Supply duct static pressure	1.500 in H2O
Roof curb (for static pressure add)		Return duct static pressure	1.250 in H2O
Supply Fan Hp	40 Hp FC	Exhaust/Return fan options	100% -Exhaust 15 Hp w/Statitrac

Electrical values provided are estimated only and are subject to change without notice and may differ from nameplate values.

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Nominal Capacity	<b>60 ton Air cooled</b>	Unit Function	<b>Natural Gas Heat</b>
Development Sequence	<b>R410A Development sequence</b>		

Actual supply motor power	<b>31.35 bhp</b>	Actual exhaust/return motor power	<b>9.75 bhp</b>
Supply Fan Drive Selection	<b>1000 rpm</b>	Exhaust/Return fan drive selection	<b>700 rpm</b>
Actual supply fan speed	<b>967 rpm</b>	Actual exhaust/return fan speed	<b>679 rpm</b>
System power	<b>84.05 kW</b>	EER @ AHRI	<b>10.4 EER</b>
IEER @ AHRI	<b>16.5 EER</b>		

## Electrical

Max overcurrent protection	<b>225.00 A</b>	Min circuit ampacity	<b>178.35 A</b>
Min disconnect switch size	<b>191.00 A</b>	Recommended dual element	<b>200.00 A</b>
Compressor 1 count	<b>1.00 Each</b>	Compressor 1 RLA	<b>22.20 A</b>
Compressor 2 count	<b>1.00 Each</b>	Compressor 2 RLA	<b>25.50 A</b>
Compressor 3 count	<b>1.00 Each</b>	Compressor 3 RLA	<b>38.90 A</b>
Supply motor count	<b>1</b>	Supply fan motor FLA	<b>49.00 A</b>
Condenser fan FLA	<b>10.80 A</b>	Exhaust/return fan motor FLA	<b>17.70 A</b>
Electric heater FLA		Other FLA	<b>2.00 A</b>
Crankcase heater FLA		Supply fan count	<b>2.00 Each</b>

## Weights

Installed point load 1	<b>1004.6 lb</b>	Installed point load 2	<b>952.0 lb</b>
Installed point load 3	<b>1105.3 lb</b>	Installed point load 4	<b>1052.6 lb</b>
Installed point load 5	<b>1194.6 lb</b>	Installed point load 6	<b>1141.9 lb</b>
Installed point load 7	<b>1284.9 lb</b>	Installed point load 8	<b>1232.2 lb</b>
Installed point load 9	<b>1384.5 lb</b>	Installed point load 10	<b>1331.8 lb</b>
COG - X dimension	<b>16.82 ft</b>	COG - Y dimension	<b>4.73 ft</b>
Total installed weight	<b>11684.4 lb</b>		

## Coil Specification

Evaporator rows	Evaporator face area	<b>43.00 sq ft</b>
Evaporator fin spacing		


## Acoustical Performance

Octave Band	<u>63 Hz</u>	<u>125 Hz</u>	<u>250 Hz</u>	<u>500 Hz</u>	<u>1 kHz</u>	<u>2 kHz</u>	<u>4 kHz</u>	<u>8 kHz</u>
Outdoor Noise	<b>101 dB</b>	<b>96 dB</b>	<b>93 dB</b>	<b>92 dB</b>	<b>89 dB</b>	<b>86 dB</b>	<b>83 dB</b>	<b>79 dB</b>

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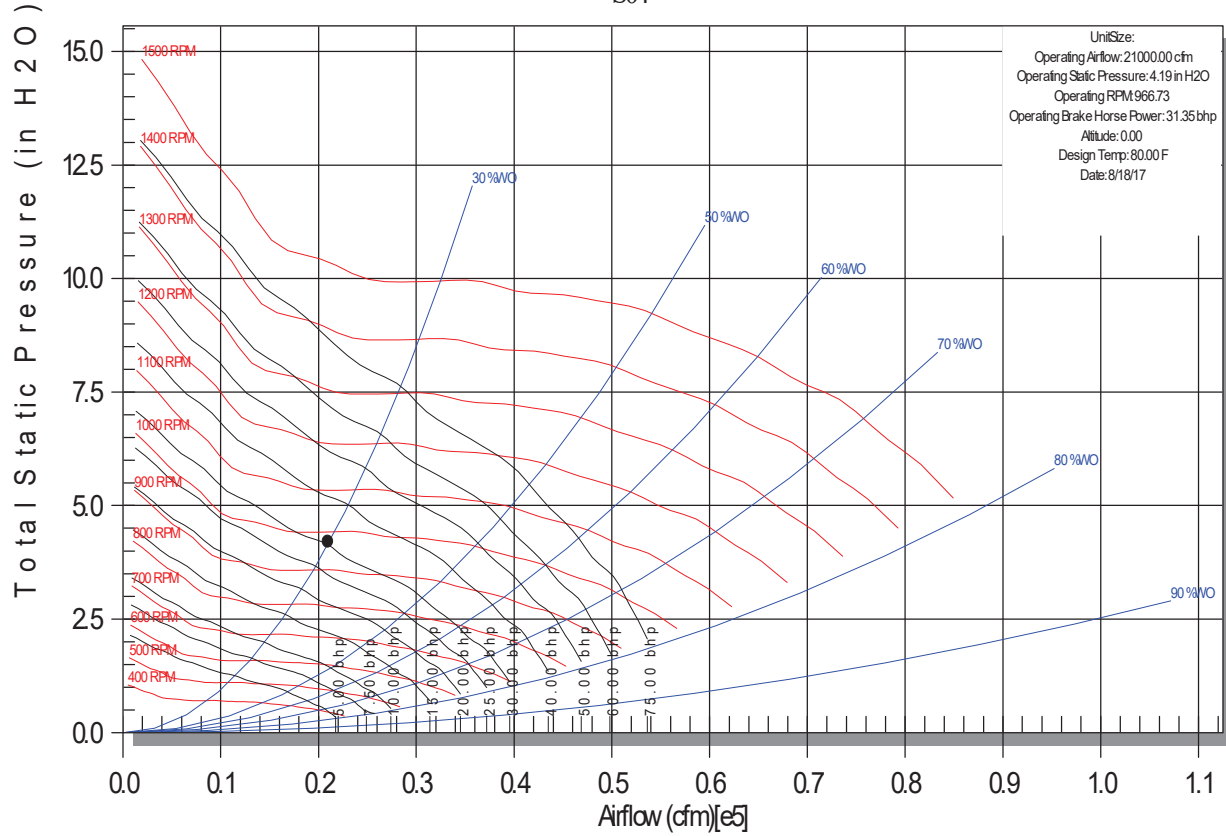
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Tag	<b>ASU-15 (VSC)</b>			Model number			<b>SFHLF60</b>	
Nominal Capacity	<b>60 ton Air cooled</b>			Unit Function			<b>Natural Gas Heat</b>	
Development Sequence	<b>R410A Development sequence</b>							
Return Duct	<b>93 dB</b>	<b>85 dB</b>	<b>79 dB</b>	<b>77 dB</b>	<b>74 dB</b>	<b>71 dB</b>	<b>68 dB</b>	<b>69 dB</b>
Supply Duct	<b>93 dB</b>	<b>89 dB</b>	<b>89 dB</b>	<b>87 dB</b>	<b>84 dB</b>	<b>81 dB</b>	<b>76 dB</b>	<b>71 dB</b>
SUPPLY data conform to ARI 260 RETURN data conform to ARI 260 Outdoor Noise data conform to ARI 340/360-07 Outdoor includes all compressors and condenser fan Octave Band Sound Power in dB re 1 pW								

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## ASU-15 (VSC) S04

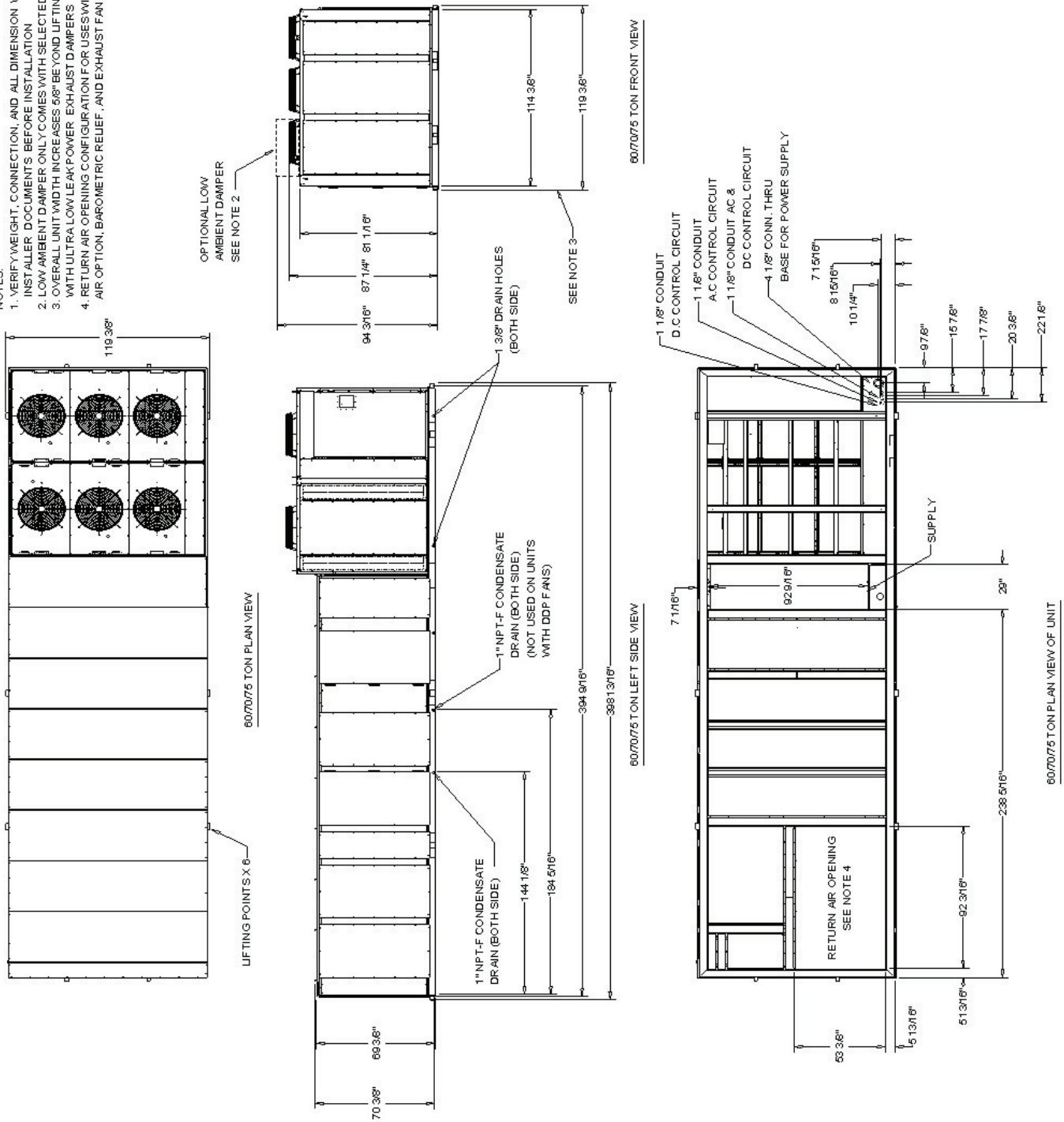


## ASU-15 (VSC)

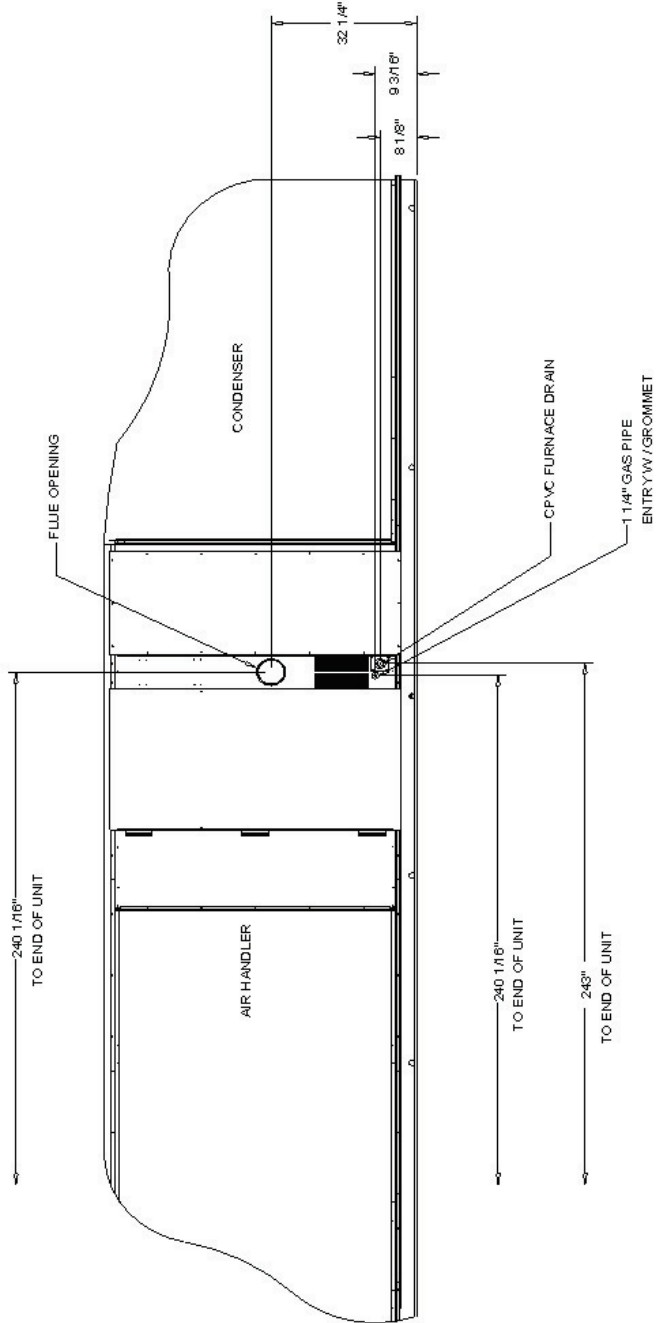
	63Hz	125Hz	250Hz	500Hz	1 kHz	2 kHz	4 kHz	8 kHz
Supply duct:	93	89	89	87	84	81	76	71
Return duct:	93	85	79	77	74	71	68	69
Outdoor Noise:	101	96	93	92	89	86	83	79



- NOTES:
1. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION.
  2. LOW AMBIENT DAMPER ONLY COMES WITH SELECTED UNIT.
  3. OVERALL UNIT WIDTH INCREASES 5/8" BEYOND LIFTING LUG WITH ULTRA LOW LEAK POWER EXHAUST DAMPERS.
  4. RETURN AIR OPENING CONFIGURATION FOR USES WITH NO AIR OPTION, BAROMETRIC RELIEF, AND EXHAUST FAN.



TOPSS Dimension Drawing  
 ALL WEIGHTS AND DIMENSIONS ARE APPROXIMATE.



60 - 75 500MBH TON GAS HEAT  
LEFT SIDE OF UNIT



**ELECTRICAL / GENERAL DATA**

<p><b>TONS</b></p> <p>Model (Tonnage): SFHLF60 (60Ton)          Unit Operating Voltage Range: 414-506          Unit Primary Voltage: 480          Unit Hertz: 60          Unit Phase: 3</p> <p>EER: 10.4 EER          IEER: 16.5 EER</p>	<p><b>GAS HEATING - PERFORMANCE</b></p> <p>Heating Input: 125-500          Heating Output: 100-400          Capacity Steps: 4:1</p> <p><b>HEATING - GENERAL DATA</b></p> <p>Gas inlet pressure: (in w.c.) 1 1/4"          Gas Pipe Connection Size: 7" wc - 14" wc</p>
<p><b>COMPRESSOR</b></p> <p>Compressor 1 Count: 1.00 Each          Compressor 1 RLA: 22.20 A          Compressor 2 Count: 1.00 Each          Compressor 2 RLA: 25.50 A          Compressor 3 Count: 1.00 Each          Compressor 3 RLA: 38.90 A</p>	<p><b>ELECTRIC HEATER</b></p> <p>Electric Heater Kw          Electric Heater Full Load Amps:</p>
<p><b>SUPPLY FAN MOTOR</b></p> <p>Number of Fans: 2.00 Each          Number of Motors: 1          Total Horsepower:          Supply Fan Motor Full Load Amps: 49.00 A          Supply Fan Efficiency: 44.17 %</p>	<p><b>EXHAUST / RETURN FAN MOTOR</b></p> <p>Number: 1          Horsepower (Each): 15.0          Exhaust Fan Motor Full Load Amps: 18.9</p>
<p><b>CONDENSER FAN MOTOR</b></p> <p>Number: 6          Horsepower (each): 1.0          Condenser Fan Motor Full Load Amps (Total): 10.8</p>	<p><b>FILTERS - TYPE</b></p> <p>Type: High-Efficiency Throwaway          Furnished: YES          Number: 35          Recommended Size: 16" x20" x2"</p>
<p><b>EVAPORATIVE CONDENSER (7)</b></p> <p>Pump Horsepower: N/A          Pump Full Load Amps: N/A          Sump Heater Full Load Amps: N/A          Sump Heater kW: N/A</p>	<p><b>PREFILTERS</b></p> <p>Furnished:          Number:          Recommended Size:</p>
<p><b>REFRIGERANT TYPE (6)</b></p> <p>Charge Type: R-410A          Factory Charge (Circuit #1): 42.0 lb          Factory Charge (Circuit #2): 40.0 lb</p>	<p><b>FINAL FILTERS - TYPE</b></p> <p>Type:          Furnished:          Number:          Recommended Size:</p> <p><b>PREFILTERS</b></p> <p>Furnished:          Number:          Recommended Size:</p>

**Notes:**

- LOAD 1=Current of the largest motor (compressor or fan motor); LOAD 2=Sum of the currents of all remaining motors; LOAD 3 =Current of electric heaters  
 LOAD 4 =Control Power Transformer (20-40 and 24-48 ton units add 3 FL amps for wire sizing formula, 50-75 and 59 - 89 ton units add 6 FL amps)
- For Electric Heat MCA, MOP, RDE values, calculate for both cooling and heating modes. (When determining LOADS, the compressors do not operate when the unit is in heating mode) (On 70-89 ton single source units, heating Load 4 = 12 amps on 200,230 volt units and 9 amps on 480,575 volt units)
- If selected Max Over Cur is less than the Min Cir Amp, then select the lowest maximum fuse size which is equal to or larger than the Min Cir Amp, provided the selected fuse size does not exceed 800 amps.
- If the selected Recommended Dual Element fuse size is greater than the selected Max Over Cur Protection value, then select the Recommended Dual Element fuse size value to equal the Max Over Protection value.
- Compressor kW at AHR1 rating conditions of 80/67 -95
- Refrigerant charge is an approx. value. For a more precise value, see unit nameplate and service instructions.
- Sump Heater is an optional feature.