



SUBMITTAL

Project

BRCC TEDC chiller replacement

Date

Wednesday, August 4, 2021

Mechanical Contractor

TBD

Mechanical Engineer

Sims Group Consulting Engineers, PC

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Prepared By:

08/06/2021
07:12AM

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Unit Report For ACC-1

Project: BRCC TEDC chiller replacement
 Prepared By:

08/06/2021
 07:12AM

Unit Information

Tag Name:..... **ACC-1**
 Model Number:..... **30RB150**
 Condenser Type:..... **Air Cooled**
 Compressor Type:..... **Scroll**
 Nameplate Voltage:..... **460-3-60** V-Ph-Hz
 Quantity:..... **1**
 Manufacturing Source:..... **Charlotte, NC USA**
 Refrigerant:..... **R410A**
 Independent Refrigerant Circuits:..... **2**
 Capacity Control Steps:..... **7**
 Minimum Capacity:..... **12.0** %
 Shipping Weight:..... **8564** lb
 Operating Weight:..... **9175** lb
 Unit Length:..... **189** in
 Unit Width:..... **89** in
 Unit Height:..... **90** in

Accessories and Installed Options

Freeze Protection
 Suction Line Insulation
 Suction Service Valves
 Non-Fused Disconnect
 Service Option (includes Service Port & GFI)
 AI Fin/Cu Tube
 Ultra Low Sound Option
 Low Ambient Head Pressure Control
 Minimum Load Control
 Single Point
 BACnet Communications
 Coil Trim Panels, Grilles(both sides of the chiller), Upper Hail Guards
 High SCCR 65 k Current Rating (460V) (included non-fused disconnect)

Chiller Warranty Information (Note: for US & Canada only)

First Year - Parts Only (Standard)
 Start-up and Complete Unit 1st Year Labor, First Unit
 Complete Unit Years 2-5 Parts & Carrier CCS Labor

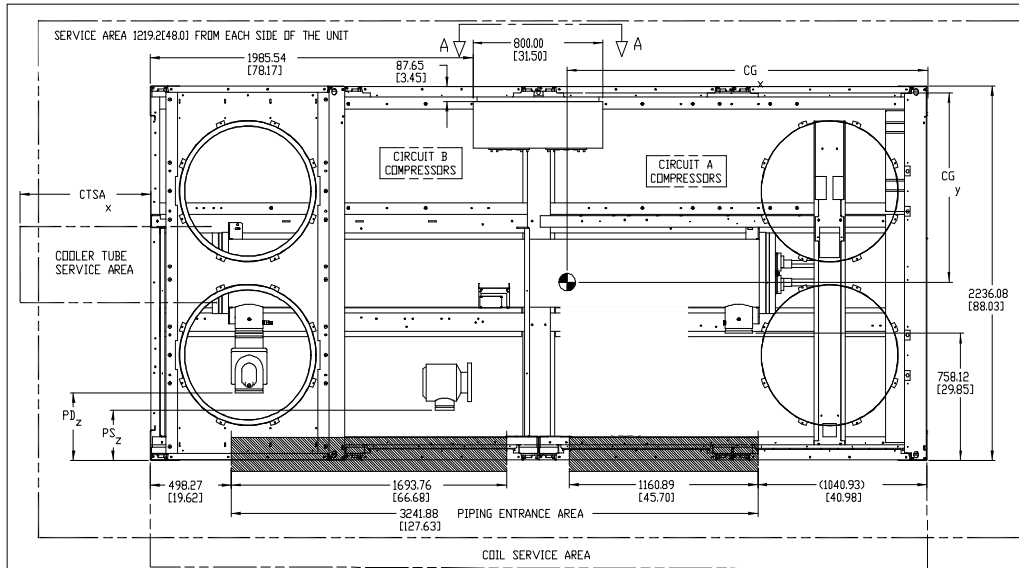
Ordering Information

Part Number	Description	Quantity
30RBX1506--HGWS5C	Packaged Chiller	1
	Base Unit	
	Freeze Protection	
	Suction Line Insulation	
	Suction Service Valves	
	Non-Fused Disconnect	
	Service Option (includes Service Port & GFI)	
	AI Fin/Cu Tube	
	Ultra Low Sound Option	
	Low Ambient Head Pressure Control	
	Minimum Load Control	
	Single Point	
	BACnet Communications	
	Coil Trim Panels, Grilles(both sides of the chiller), Upper Hail Guards	
	High SCCR 65 k Current Rating (460V) (included non-fused disconnect)	

Certified Drawing for ACC-1

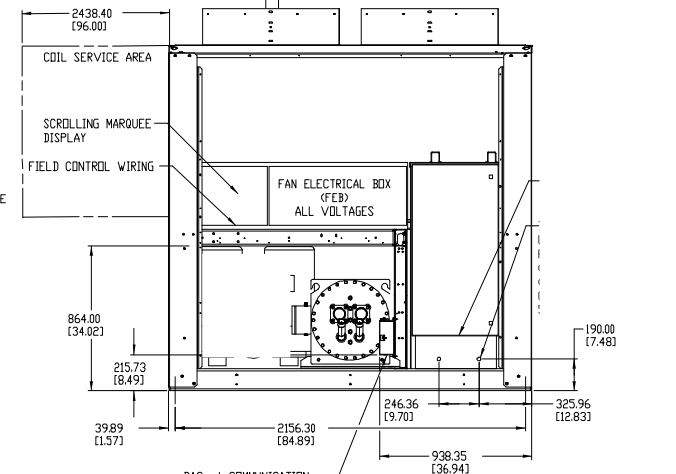
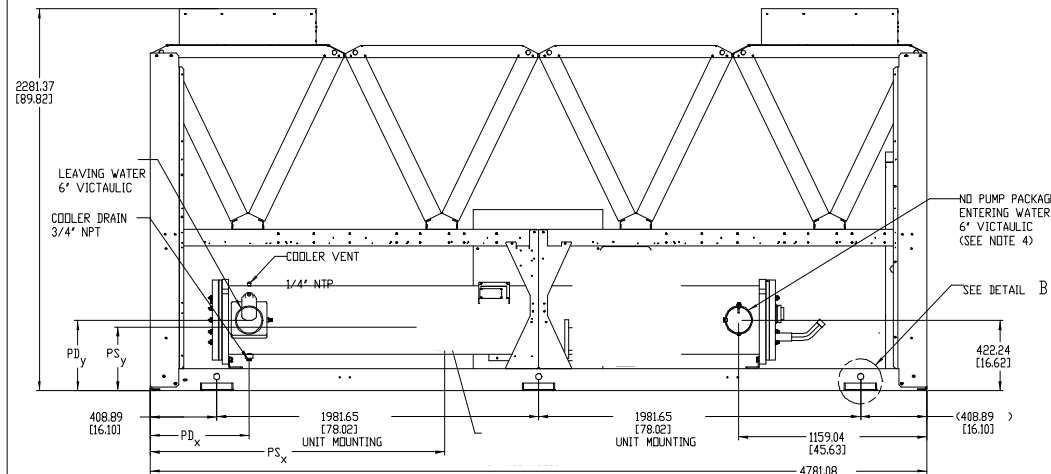
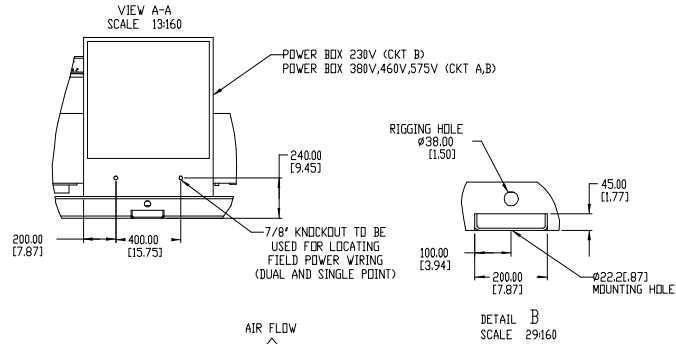
Project: BRCC TEDC chiller replacement
Prepared By:

08/04/2021
09:56PM



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- NOTES: 1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
 TOP- DO NOT RESTRICT
 SIDES AND END- 6' FROM SOLID SURFACE. FOR AIRFLOW
 SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
 2. ALL PUMPS HAVE DRAINS LOCATED AT THE BOTTOM OF VOLUTE FOR DRAINING.
 3. TEMPERATURE RELIEF DEVICES LOCATED ON SUCTION LINE, LIQUID LINE AND FILTER DRIER OF EACH CIRCUIT AND HAVE 1/4" FLARE CONNECTION.
 4. NO PUMP PACKAGE LEAVING WATER CONNECTION IS SAME SIZE AND HAS SAME Y AND Z DIMENSIONS AS ENTERING WATER. ALSO HAS SAME PDx DIMENSION AS PUMP PACKAGE.



WEIGHT CU/AL lb/kg	MAX WEIGHT CU/AL lb/kg	WEIGHT CU/AL lb/kg	MAX WEIGHT CU/AL lb/kg	WEIGHT MCHX lb/kg	MAX WEIGHT MCHX lb/kg	CENTER OF GRAVITY			PUMP SUCTION (PS)			PUMP DISCHARGE (PD)			COOLER TUBE SERVICE AREA CTSx x MM (INCH)
						Cgx MM (INCH)	Cgy MM (INCH)	Cgz MM (INCH)	X ±.25	Y ±.25	Z ±.25	X ±.25	Y ±.25	Z ±.25	
30RB-150	9174 4161	10419 4726	10139 4599	11384 5164	8517 3863	9762 4428	2392 [94.17]	983 [38.70]	1808.5 [71.2]	381 [15.0]	297.2 [11.7]	604.5 [23.8]	421.6 [16.6]	231.1 [9.1]	2905.8 [114.4]

DATE	SUPERCEDES	30RB-130,150 AIR COOLED CHILLER	00DCN500001400A	REV
06/10/10	04/20/10			G.4

Field Wiring Diagram for ACC-1

Project: BRCC TEDC chiller replacement
Prepared By:

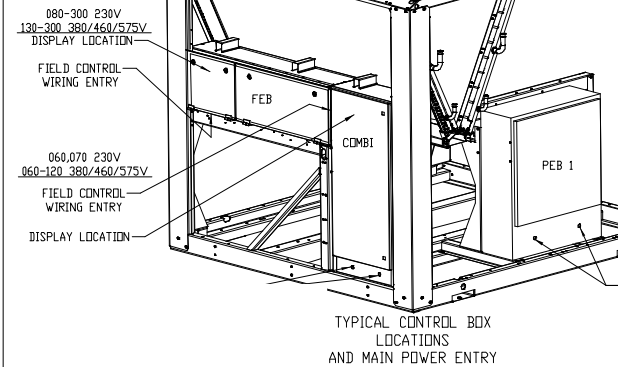
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NOTES

1. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
2. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.
INCOMING WIRE SIZE RANGE FOR THE TERMINAL BLOCK IS #4 AWG TO 500 KCMIL.
INCOMING WIRE SIZE RANGE OF NON-FUSED DISCONNECT WITH MCA UP TO 599.9 AMPS IS 3/0 TO 500 KCMIL.
INCOMING WIRE SIZE RANGE OF NON-FUSED DISCONNECT WITH MCA FROM 600 TO 799.9 AMPS IS 1/0 TO 500 KCMIL.
INCOMING WIRE SIZE RANGE OF NON-FUSED DISCONNECT WITH MCA FROM 800 TO 1199.9 AMPS IS 250 KCMIL TO 500 KCMIL.
3. TERMINALS 9 AND 10 OF TBS ARE FOR FIELD EXTERNAL CONNECTIONS FOR REMOTE ON-OFF. THE CONTACTS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA.
4. TERMINALS 1 AND 2 OF TBS ARE FOR EXTERNAL CONNECTIONS OF CHILLED WATER PUMP INTERLOCK. THE CONTACTS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA.
5. TERMINALS 11 AND 13 OF TBS ARE FOR CONTROL OF CHILLED WATER PUMP1 (PMP1) STARTER. TERMINALS 13 AND 15 OF TBS ARE FOR CONTROL OF CHILLED WATER PUMP2 (PMP2) STARTER. THE MAXIMUM LOAD ALLOWED FOR THE CHILLED WATER PUMP RELAY IS 5 VA SEALED, 10 VA INRUSH AT 24V. FIELD POWER SUPPLY IS NOT REQUIRED.
6. FOR CONTROL OF CHILLED WATER PUMPS, A SET OF NORMALLY OPEN CONTACTS RATED FOR DRY CIRCUIT APPLICATION MUST BE SUPPLIED FROM FIELD SUPPLIED PUMP STARTER RELAY. CONNECT CONTACTS TO VIOLET AND PINK WIRES IN HARNESS FROM MAIN BASE BOARD CHANNEL 18. WIRES IN HARNESS ARE MARKED PMP1-13 AND PMP1-14.
7. TERMINALS 12 AND 13 OF TBS ARE FOR A ALARM RELAY. THE MAXIMUM LOAD ALLOWED FOR THE ALARM RELAY IS 10 VA SEALED, 25 VA INRUSH AT 24V. FIELD POWER SUPPLY IS NOT REQUIRED.
8. MAKE APPROPRIATE CONNECTIONS TO TB6 AS SHOWN FOR ENERGY MANAGEMENT BOARD OPTIONS. THE CONTACTS FOR OCCUPANCY OVERRIDE, DEMAND LIMIT AND ICE DONE OPTIONS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA.
9. J3 - 24 AND 25 OF EMM BOARD ARE FOR RUN RELAY AND SHUTDOWN RELAY. THE MAXIMUM LOAD ALLOWED FOR THE RUN AND SHUTDOWN RELAY IS 10 VA SEALED, 25 VA INRUSH AT 24V. FIELD POWER SUPPLY IS NOT REQUIRED.

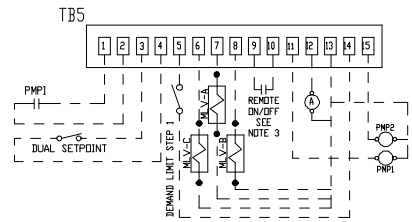
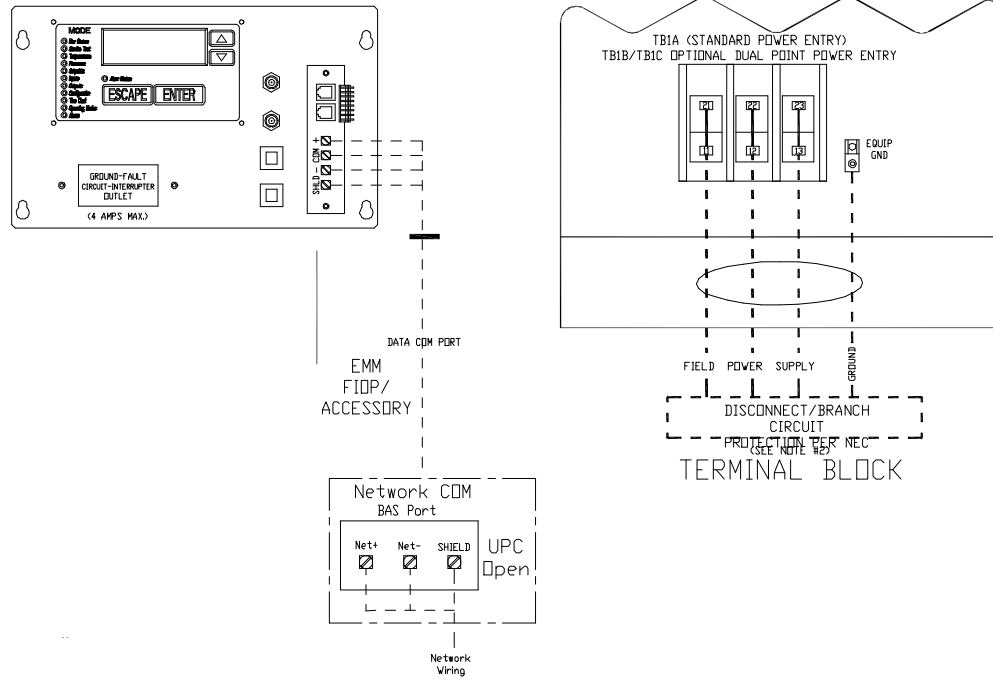
- A - ALARM
PMP1 - CHILLED WATER PUMP INTERLOCK
CWP - CHILLED WATER PUMP
EMM - ENERGY MANAGEMENT
SHD R - SHUTDOWN RELAY
RUN R - RUN RELAY
MLV - MINIMUM LOAD VALVE
TB - TERMINAL BLOCK
- - - FIELD POWER WIRING
- - - FIELD CONTROL WIRING

SIZE	STD UNIT
315A,B	160
330B	
330A	170
345A,B	
360B	
360A	190
390A,B	



MAIN POWER ENTRANCE CIRCUIT
130-300 DUAL & SINGLE POINT, 380/460/575V

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DATE 06/10/10	SUPERSEDES 03/09/09	30RB060-390 AIR-COOLED AQUASNAP CHILLER	00DCN500001300A	REV G.2
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Detailed Performance Summary For ACC-1

Project: BRCC TEDC chiller replacement
Prepared By:

08/06/2021
07:12AM



AquaSnap™ Air-Cooled Scroll Chiller



Unit Information

Tag Name:..... **ACC-1**
 Model Number:..... **30RB150**
 Condenser Type:..... **Air Cooled**
 Compressor Type:..... **Scroll**
 Nameplate Voltage:..... **460-3-60** V-Ph-Hz
 Quantity:..... **1**
 Manufacturing Source:..... **Charlotte, NC USA**
 ASHRAE 90.1:..... **2010, 2007**
 Refrigerant:..... **R-410A**
 Capacity Control Steps:..... **7**
 Minimum Capacity:..... **12.00** %
 Shipping Weight:..... **8564** lb
 Operating Weight:..... **9175** lb
 Refrigerant Weight (Circuit A):..... **133** lb
 Refrigerant Weight (Circuit B):..... **133** lb
 Unit Length:..... **189** in
 Unit Width:..... **89** in
 Unit Height:..... **90** in
 Minimum Outdoor Operating Temp:..... **-20.0** °F

Integrated Pump Information

No Pump Selected

Accessories and Installed Options

Freeze Protection
 Suction Line Insulation
 Suction Service Valves
 Non-Fused Disconnect
 Service Option (includes Service Port & GFI)
 AI Fin/Cu Tube
 Ultra Low Sound Option
 Low Ambient Head Pressure Control
 Minimum Load Control
 Single Point
 BACnet Communications
 Coil Trim Panels, Grilles(both sides of the chiller), Upper Hail Guards
 High SCCR 65 k Current Rating (460V) (included non-fused disconnect)

Performance Information

Cooling Capacity:..... **140.0** Tons
 Total Compressor Power:..... **145.9** kW
 Total Fan Motor Power:..... **20.64** kW
 Total Unit Power (without pump):..... **166.6** kW
 Efficiency (without pump) (EER):..... **10.09** BTU/Wh

Electrical Information

Unit Voltage:..... **460-3-60** V-Ph-Hz
 Connection Type:..... **Single Point**
 Minimum Voltage:..... **414** Volts
 Maximum Voltage:..... **506** Volts

Evaporator Information

Fluid Type:..... **Fresh Water**
 Fouling Factor:..... **0.000100** (hr-sqft-F)/BTU
 Leaving Temperature:..... **44.00** °F
 Entering Temperature:..... **54.00** °F
 Fluid Flow:..... **334.8** gpm
 Fluid Flow Min:..... **180.0** gpm
 Fluid Flow Max:..... **720.0** gpm
 Pressure Drop:..... **7.11** ft H2O

Amps	Electrical Circuit 1	Electrical Circuit 2
MCA	303.2	---
MOCP	350.0	---
ICF	511.2	---
Rec Fuse Size	350.0	

Condenser Information

Altitude:..... **0.000** ft
 Number of Fans:..... **8**
 Total Condenser Fan Air Flow:..... **99,200** CFM
 Entering Air Temperature:..... **95.0** °F

Detailed Performance Summary For ACC-1

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Integrated Part Load Value (AHRI)

IPLV:.....**13.61** BTU/Wh

Unit Performance				
Percent of Full Load Capacity, %	100.00	75.00	50.00	25.00
Percent of Full Load Power, %	100.00	58.17	36.28	16.89
Unloading Sequence	A	A	A	A
Cooling Capacity, Tons	140.0	105.0	70.01	35.00
Total Unit Power, kW	166.6	96.90	60.43	28.13
Efficiency (EER), BTU/Wh	10.09	13.00	13.90	14.93
Evaporator Data				
Fluid Entering Temperature, °F	54.00	51.49	48.99	46.50
Fluid Leaving Temperature, °F	44.00	44.00	44.00	44.00
Fluid Flow Rate, gpm	334.8	334.8	334.8	334.8
Fouling Factor, (hr-sqft-F)/BTU	0.000100	0.000100	0.000100	0.000100
Pressure Drop, psi	3.08	3.10	3.11	3.13
Condenser Data				
Entering Air Temperature, °F	95.0	80.0	65.0	55.0

Sound power measured in accordance with ANSI/AHRI Standard 370-2015.



Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.

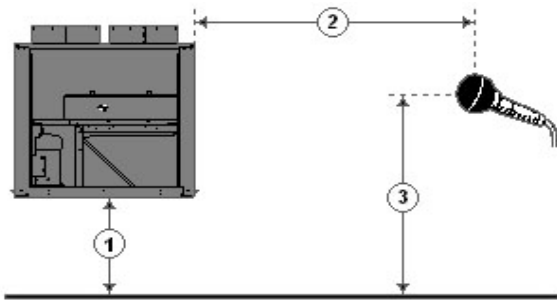
Detailed Performance Summary For ACC-1

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Unit Parameters

Tag Name:..... **ACC-1**
 Model Number:..... **30RB150**
 Condenser Type:..... **Air Cooled**
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 Chiller Nameplate Voltage:..... **460-3-60** V-Ph-Hz
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 Refrigerant Weight (Circuit A):..... **133** lb
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 Unit Length:..... **189** in
 Unit Width:..... **89** in
 Unit Height:..... **90** in



1 - Chiller Height Above Ground
 2 - Horizontal Distance From Chiller to Receiver
 3 - Receiver Height Above Ground
 (See Note 3)

Accessories and Installed Options

Freeze Protection Suction Line Insulation Suction Service Valves Non-Fused Disconnect Service Option (includes Service Port & GFI) Al Fin/Cu Tube Ultra Low Sound Option	Low Ambient Head Pressure Control Minimum Load Control Single Point BACnet Communications Coil Trim Panels, Grilles(both sides of the chiller), Upper Hail Guards High SCCR 65 k Current Rating (460V) (included non-fused disconnect)
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Acoustic Information

Table 1. A-Weighted Sound Power Levels (dB re 1 picowatt). See note #1.

Octave Band Center Frequency, Hz	31	63	125	250	500	1k	2k	4k	8k	Overall
100% Load	---	67	81	87	92	96	91	88	79	99
75% Load	---	69	83	89	94	98	93	89	80	101
50% Load	---	67	80	87	93	97	91	88	79	100
25% Load	---	64	80	85	89	93	89	85	76	97

Table 2. A-Weighted Sound Pressure Levels (dB re 20 micropascals) calculated based upon user defined input for dimensions 1, 2 and 3 as shown in above diagram. See note #2 and #3.

Octave Band Center Frequency, Hz	31	63	125	250	500	1k	2k	4k	8k	Overall
100% Load	---	39	53	59	64	68	63	60	51	71
75% Load	---	41	55	61	66	70	65	61	52	73
50% Load	---	39	52	59	65	69	63	59	51	72
25% Load	---	36	52	57	61	65	61	57	48	68

Notes: (1) Measurements performed in accordance with AHRI Standard 370-2015 for air cooled Chillers.
 (2) Chiller is assumed to be a point source on a reflecting plane.
 (3) Without user defined input, the default dimensions used to construct Table 2 are as follows:
 1 - Chiller Height Above Ground = 0.0 ft
 2 - Horizontal Distance From Chiller to Receiver = 30.0 ft
 3 - Receiver Height Above Ground = 3.0 ft