

Unit Report For ACC-1

Project: Blue Ridge CC Sink Building
 Prepared By:

02/13/2020
 03:35PM

Unit Information

Tag Name: **ACC-1**
 Model Number: **30RB170**
 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: **8**
 Minimum Capacity: **10.0** %
 Shipping Weight: **9990** lb
 Operating Weight: **10601** lb
 Unit Length: **236** in
 Unit Width: **89** in
 Unit Height: **90** in

Accessories and Installed Options

Freeze Protection
 Suction Line Insulation
 Suction Service Valves
 Non-Fused Disconnect
 Al Fin/Cu Tube
 Ultra Low Sound Option
 Minimum Load Control
 Single Point
 BACnet Communications
 Coil Trim Panels, Grilles, Full End Screens
 High SCCR 65 k Current Rating (460V) (included non-fused disconnect)
 Greenspeed Intelligence: High-Efficiency Variable Condenser Fans
 Remote Cooler Kit

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

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

Ordering Information

Part Number	Description	Quantity
30RBX1706--HNW3K	Packaged Chiller	1
	Base Unit	
	Freeze Protection	
	Suction Line Insulation	
	Suction Service Valves	
	Non-Fused Disconnect	
	Al Fin/Cu Tube	
	Ultra Low Sound Option	
	Minimum Load Control	
	Single Point	
	BACnet Communications	
	Coil Trim Panels, Grilles, Full End Screens	
	High SCCR 65 k Current Rating (460V) (included non-fused disconnect)	
	Greenspeed Intelligence: High-Efficiency Variable Condenser Fans	
00EFN900002400A	Remote Cooler Kit	1

Remote Cooler Kit - Allows remote installation of the cooler. Kit includes transducer cable extensions and shutoff valves. Chiller ships with cooler assembled in unit. Installing contractor to remove cooler and install indoors and pipe between air-cooled chiller and indoor evaporator

Certified Drawing for ACC-1

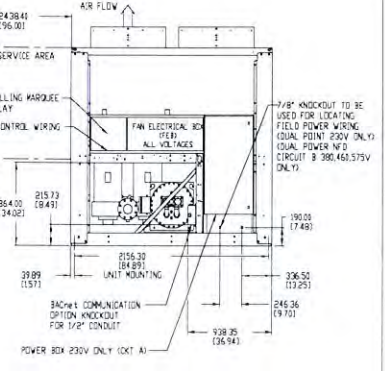
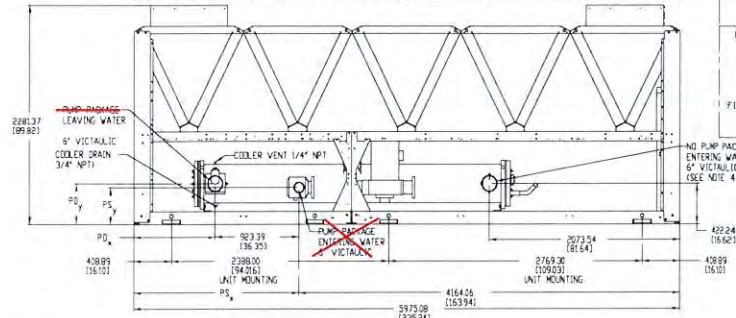
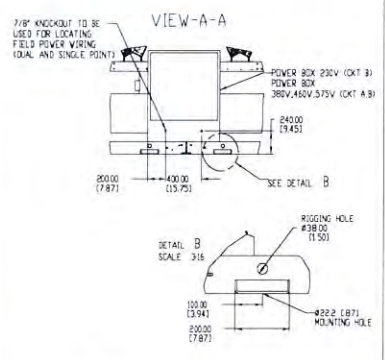
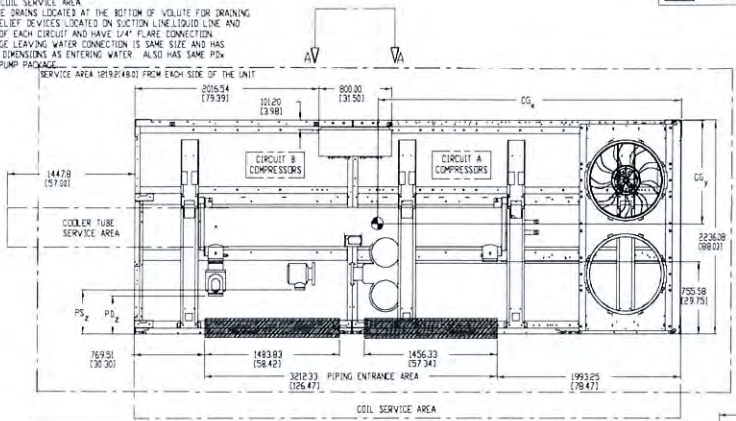
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- NOTES: 1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
TOP: 30" NOT RESTRICTED
SIDES AND END: 6" FROM SOLID SURFACE FOR AIRFLOW SIDE: 8" REQUIRED FOR COIL SERVICE AREA
2. ALL PUMPS HAVE DRAINS LOCATED AT THE BOTTOM OF VOLUME FOR DRAINING
3. TEMPERATURE 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 PIPING DIMENSION AS PUMP PACKAGE



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MODEL	WEIGHT COIL	MAX WEIGHT COIL	WEIGHT PUMP	MAX WEIGHT PUMP	WEIGHT NEW PUMP	MAX WEIGHT NEW PUMP	CENTER OF GRAVITY		PUMP SECTION (GPD)				PUMP DISCHARGE (GPD)					
							X	Y	1	2	3	4	5	6	7	8	9	10
30R-160	10566	15511	11472	18177	14775	12720	3065	994	3000	381	297.2	883.92	425.64	235.14				
315A-131A	4566	5232	3213	5781	4257	4862	1181.65	1391.33	172.22	155.23	111.71	124.81	116.63	191.1				
30R-170	10620	15846	11817	18522	14775	12720	3065	994	3000	381	297.2	883.92	425.64	235.14				
330A-345A/B-360B	4815	5385	3367	5933	4443	5029	1182.91	1391.33	172.22	155.23	111.71	124.81	116.63	191.1				

DATE	SUPERVISOR	MODEL	REVISION	REV
06/10/10	04/20/10	30R-160,170,315A/B,330A/B,345A/B,360B	AIR COOLED CHILLERS	00DCN500000700A
				G.4

Field Wiring Diagram for ACC-1

Project: Blue Ridge CC Sink Building
Prepared By:

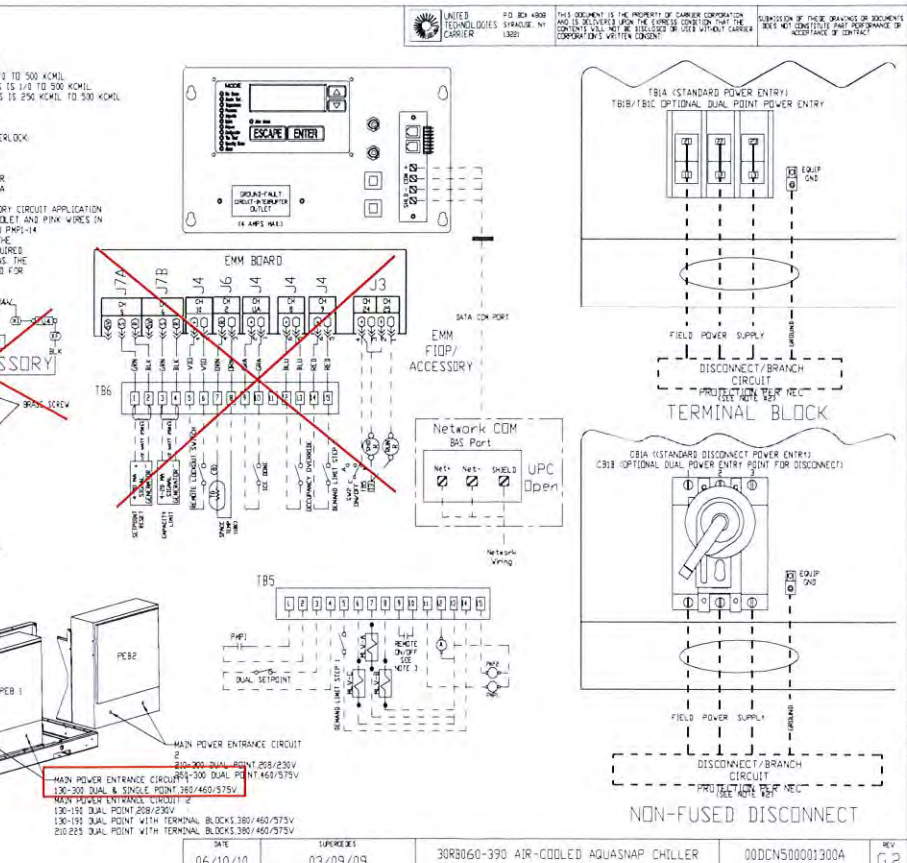
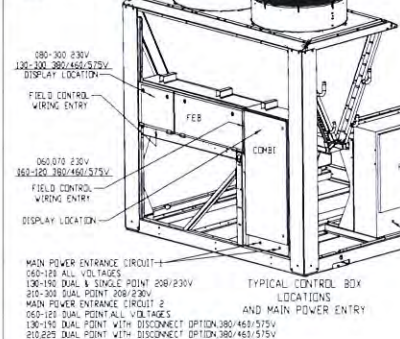
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NOTES

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 75% MINIMUM USE COPPER FOR ALL UNITS.
INCOMING WIRE SIZE RANGE FOR THE TERMINAL BLOCK IS 8# AWG TO 500 KCMIL.
INCOMING WIRE SIZE RANGE OF NON-FUSED DISCONNECT WITH MCA FROM 500 TO 5999 AMPS IS 3/0 TO 500 KCMIL.
INCOMING WIRE SIZE RANGE OF NON-FUSED DISCONNECT WITH MCA FROM 600 TO 7999 AMPS IS 1/0 TO 500 KCMIL.
INCOMING WIRE SIZE RANGE OF NON-FUSED DISCONNECT WITH MCA FROM 800 TO 8999 AMPS IS 2#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 PUMP (PMP) STARTER. TERMINALS 12 AND 15 OF TBS ARE FOR CONTROL OF CHILLED WATER PUMP (PMP) 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 PMP1-14 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 TBS 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. 13 - 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
PMP2 - CHILLED WATER PUMP
EMM - ENERGY MANAGEMENT
SHD R - SHUTDOWN RELAY
RUN R - RUN RELAY
MLV - MINIMUM LOAD VALVE
H - TERMINAL BLOCK
- FIELD POWER WIRING
- FIELD CONTROL WIRING
DEPENDENT/INSTALLED WIRING

SIZE	STD UNIT
315A.B	150
230A	150
230A	170
260B	150
300A	190
300A.B	190



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Detailed Performance Summary For ACC-1

Project: Blue Ridge CC Sink Building
Prepared By:

02/13/2020
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30RB with Greenspeed® Intelligence



Unit Information

Tag Name:	ACC-1	
Model Number:	30RB170	
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:	2013/2016, 2010, 2007	
Refrigerant:	R-410A	
Capacity Control Steps:	8	
Minimum Capacity:	10.00	%
Shipping Weight:	9990	lb
Operating Weight:	10601	lb
Refrigerant Weight (Circuit A):	162	lb
Refrigerant Weight (Circuit B):	133	lb
Unit Length:	236	in
Unit Width:	89	in
Unit Height:	90	in
Minimum Outdoor Operating Temp:	-20.0	°F

Total Condenser Fan Air Flow:..... **124,000** CFM
Entering Air Temperature:..... **95.0** °F

8 Stages of Cooling
Capacity Control down to
10% Load (Approximately
20 Tons)

Performance Information

Cooling Capacity:	164.1	Tons
Total Compressor Power:	167.8	kW
Total Fan Motor Power:	25.81	kW
Total Unit Power (without pump):	193.6	kW
Efficiency (without pump) (EER):	10.17	BTU/Wh

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:	392.3	gpm
Fluid Flow Min:	204.0	gpm
Fluid Flow Max:	816.0	gpm
Pressure Drop:	9.58	ft H2O

Condenser Information

Altitude:	0.000	ft
Number of Fans:	10	

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Integrated Pump Information

No Pump Selected

Fans

Remote Cooler Kit

Accessories and Installed Options

- Freeze Protection
- Suction Line Insulation
- Suction Service Valves
- Non-Fused Disconnect
- Al Fin/Cu Tube
- Ultra Low Sound Option
- Minimum Load Control
- Single Point
- BACnet Communications
- Coil Trim Panels, Grilles, Full End Screens
- High SCCR 65 k Current Rating (460V) (included non-fused disconnect)
- Greenspeed Intelligence: High-Efficiency Variable Condenser

Electrical Information

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

Amps	Electrical Circuit 1	Electrical Circuit 2
MCA	355.6	---
MOCP	400.0	---
ICF	563.6	---
Rec Fuse Size	400.0	---

Electrical Requirements,
 400 AMP Fuse

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Integrated Part Load Value (AHLI)

IPLV: 17.11 BTU/Wh

Part Load Efficiency



Unit Performance				
Percent of Full Load Capacity, %	100.00	75.00	50.00	25.00
Percent of Full Load Power, %	100.00	53.44	27.29	11.58
Unloading Sequence	B	B	B	B
Cooling Capacity, Tons	164.1	123.0	82.03	41.02
Total Unit Power, kW	193.6	103.5	52.85	22.41
Efficiency (EER), BTU/Wh	10.17	14.27	18.63	21.96
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	392.3	392.3	392.3	392.3
Fouling Factor, (hr-sqft-F)/BTU	0.000100	0.000100	0.000100	0.000100
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.ahrirectory.org.

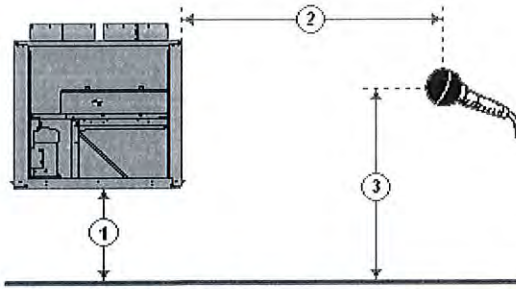
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Unit Parameters

Tag Name:	ACC-1	
Model Number:	30RB170	
Condenser Type:	Air Cooled	
Compressor Type:	Scroll	
Chiller Nameplate Voltage:	460-3-60	V-Ph-Hz
Quantity:	1	
Manufacturing Source:	Charlotte, NC USA	
Refrigerant:	R-410A	
Shipping Weight:	9990	lb
Operating Weight:	10601	lb
Refrigerant Weight (Circuit A):	162	lb
Refrigerant Weight (Circuit B):	133	lb
Unit Length:	236	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	Single Point
Suction Line Insulation	BACnet Communications
Suction Service Valves	Coil Trim Panels, Grilles, Full End Screens
Non-Fused Disconnect	High SCCR 65 k Current Rating (460V) (included non-fused disconnect)
Al Fin/Cu Tube	Greenspeed Intelligence: High-Efficiency Variable Condenser Fans
Ultra Low Sound Option	Remote Cooler Kit
Minimum Load Control	

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	---	69	82	88	94	98	93	89	81	101
75% Load	---	66	75	83	86	89	85	83	77	93
50% Load	---	58	66	74	78	78	77	76	76	84
25% Load	---	56	61	71	75	77	74	72	73	82

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	---	41	54	60	66	70	65	61	53	73
75% Load	---	38	47	54	58	61	57	55	49	65
50% Load	---	30	38	46	50	50	49	48	47	56
25% Load	---	28	33	42	47	49	46	44	44	54

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

TAG	ACC-1
Manufacturer	Carrier
Model No.	30RBX170
Unit Voltage (V-Ph-Hz)	460-3-60
Refrigerant	R-410A
Compressors	Scroll Compressors
# Circuits	2
Minimum Capacity	10%
Physical Data (Overall)	
Unit Length (in)	236
Unit Width (in)	88
Unit Height (in)	90
Operating Weight (lb)	9,800
Shipping Weight (lb)	9,900
Chilled Water	
Tons	164.1
EWT (F)	54
LWT (F)	44
Fluid Type	Fresh Water
GPM	392
Max Cooler PD (ft)	9.6
Min Full Load Efficiency (BTU/Wh)	10.17
Min IPLV Efficiency (BTU/Wh)	17.11
Design Ambient Temperature	95
Chiller Electrical	
Voltage	460/3/60
Power Connection	Single Point
MCA	355.6
MOCP	400.0
Min Machine SCCR	65k
Factory Control Transformer	Yes
Factory Options	
Across The Line Starter	Yes
CU / AI Condenser	Yes
Micro Channel Condenser	Not Acceptable
Remote Indoor Evaporator	Yes, See Note 1
Non-Fused Disconnect	Yes
65k SCCR Rating	Yes
Security Grilles/Louvers	Yes
Suction Service Valves	Yes
Sound Package (Fans/Comp)	Yes
Hot Gas Bypass Option	Yes
Variable Speed Condenser Fans	Yes
Factory Start-Up	Yes
1st Year Parts and Labor Warr.	Yes
2-5 Complete Machine, P&L Warr.	Yes
5 Year Maintenance by Mfg.	Yes

Note 1: Remote Cooler Kit - Allows remote installation of the cooler. Kit includes transducer cable extensions and shutoff valves. Chiller ships with cooler assembled. Contractor to remove cooler, properly install indoors, and pipe together.

Note 2: Refrigerant lines are not to be buried

Note 3: Distance max piping between chiller and evaporator is 70 equivalent feet.

Note 4: Chiller ships with full factory charge. Refrigerant removal will be required to relocate the cooler. Additional refrigerant maybe required depending on distant