



Cover Sheet

Submitted by: Andrew Cunningham

Project Name: Augustana Lutheran Church

Tag Name: Scroll CH

Date: 12/18/2023



Unit Report

Project Name:
Augustana Lutheran Church

Tag Name:
Scroll CH

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Tag Name: Scroll CH
30RC Air Cooled Scroll Chiller

Unit Information		
Model Number	30RC-1525S056-D08	
Unit Quantity	1	
Condenser Type	Air Cooled	
Compressor Type	Standard Scroll	
Communication	CCN, BACnet IP, Carrier-Service Remote Connectivity	
Manufacturing Source	Charlotte, NC USA	
ASHRAE 90.1	2007, 2010, 2013/2016, 2019	
Refrigerant Type	R-32	
Independent Refrigerant Circuits	2	
Shipping Weight	lb	6299
Operating Weight	lb	6435
Refrigerant Weight	lb	205
Unit Dimensions (L x W x H)	in	199 x 88 x 99
Baserail Dimensions (L x W)	in	188 x 88

Chiller Warranty Information (Note: for US and Canada only)	
Warranty	
First year - Parts only (standard)	
Compressor Year 2-5 Parts Only	

Unit Startups	
No Startups Specified	

Extended Leadtime Options	
No R-Quotes Specified	

Ordering Information		
Part Number	Description	Quantity
	Base Unit - Standard Tier	1
	7" Control Panel Colored Display with Quick Restart/Capacity Recovery	
	BACnet IP	
	Energy Management Module	
	Evaporator Heater (Freeze Protection)	
	Pressure Relief Valve	
	Carrier-Service Remote Connectivity	
	65 kA SCCR	
	Suction Line Insulation	
	Suction Service Valve	
	Standard Scroll Compressor	
	Micro Channel Condenser Coil	
	Greenspeed Intelligence: High-Efficiency Variable Condenser Fans	
	Non-Fused Disconnect	
	Brazed Plate Heat Exchanger (BPHE)	
	Single Point Power	
	Security Grilles and End Hail Guards – includes Coil Trim Panels	
	Low Sound - Includes Aero-Acoustic Fans	
30RC-1525S056-D08	Chiller Unit	



Performance Report

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Non Contractual Picture

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Performance Information

Mode		Cooling
Cooling Capacity	Tons	136.5
Total Compressor Power	kW	145.9
Chiller Pressure Drop	ft wg	12
Total Fan Motor Power	kW	15.83
Total Unit Power (without pump)	kW	161.7
Minimum Capacity	%	16
Capacity Control Steps		5
Energy Efficiency Ratio (EER)	Btu/(W-hr)	9.909
IPLV/IP	Btu/(W-hr)	17.70

Outside the scope of AHRI Air-Cooled Water-Chilling Packages Certification Program or not optionally certified, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).

Operating Conditions

System Element		Cooling
Evaporator	Braze Plate Heat Exchanger (BPHE)	
	Propylene Glycol	
	Fluid Type	
	Fluid Concentration	% 30.00
	Fluid Volume	gal 14.80
	Fouling Factor	(hr-sqft-F)/BTU 0.000100
	Leaving Temperature	°F 44.00
	Entering Temperature	°F 54.00
	Fluid Flow	gpm 353.7
	Min. Fluid Flow	gpm 196.2
Fluid	Min. Part Load Fluid Flow	gpm 141.3
	Pressure Drop	ft wg 10.8
Condenser		Micro Channel Condenser Coil
Air	Entering Air Temperature	°F 95.0
	Min. Outdoor Operating Temp	°F -20.0
	Number of Fans	8
	Total Condenser Fan Airflow	CFM 97540
Altitude	ft	5420

Electrical Information

Unit Voltage	208/230-3-60
Electrical Connection	Single Point Power
SCCR	65 kA SCCR
Minimum Voltage	V 187
Maximum Voltage	V 253
Nominal Voltage	V 220
MCA	A 660.2
MOCP	A 700.0
ICF	A 1305
RecFuse Size	A 700.0

Unit Features

7" Control Panel Colored Display with Quick Restart/Capacity Recovery
BACnet IP
Energy Management Module
Evaporator Heater (Freeze Protection)
Pressure Relief Valve
Carrier-Service Remote Connectivity
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Suction Line Insulation
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Integrated Part Load Value (AHRI)					
IPLV,IP	Btu/(W-hr)	17.70			
Unit Performance					
Percent Full Load Capacity	%	100	75	50	25
Percent Full Load Power	%	100.0	54.5	26.6	11.8
Cooling Capacity	Tons	142.6	107.0	71.31	35.65
Unit Power Input	kW	163.1	88.93	43.44	19.22
Efficiency (EER)	Btu/(W-hr)	10.49	14.43	19.70	22.26
Evaporator Data					
Fluid Entering Temperature	°F	54.00	53.04	48.97	49.09
Fluid Leaving Temperature	°F	44.00	44.00	44.00	44.00
Fluid Flow Rate	gpm	341.2	341.2	341.2	341.2
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

Values given are interpolated and are not directly measurable under laboratory conditions



Acoustic Report

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A-weighted Sound Power Levels										
Octave Band Center Frequency	Hz	63	125	250	500	1000	2000	4000	8000	Total
Full Load	dBA	66.5	81.0	84.0	91.5	93.5	94.0	85.0	80.5	98.5
75% Load	dBA	65.5	77.5	82.5	90.5	92.0	94.5	84.5	80.5	98.0
50% Load	dBA	62.5	73.5	78.0	89.5	89.5	93.5	84.5	80.5	96.5
25% Load	dBA	61.5	64.0	71.5	88.0	86.5	93.0	83.5	78.5	95.5

A-weighted Sound Pressure Levels										
Octave Band Center Frequency	Hz	63	125	250	500	1000	2000	4000	8000	Total
Full Load	dBA	38.5	53.0	56.0	63.5	65.5	66.0	57.0	52.5	70.0
75% Load	dBA	37.5	49.5	54.5	62.5	64.0	66.5	56.5	52.5	69.5
50% Load	dBA	34.5	45.5	50.0	61.5	61.5	65.5	56.5	52.5	68.5
25% Load	dBA	33.5	36.0	43.5	60.0	58.5	65.0	55.5	50.5	67.0

Acoustic Notes

1 - Vertical Height of Chiller = 0.0 ft

2 - Horizontal Distance From Chiller to Receiver = 30.0 ft

3 - Vertical Height of Receiver = 3.0 ft

Estimated Sound Power levels - dB re: 1 picowatt

Estimated Sound Pressure levels - dB re: 20 micropascal

Estimated sound levels given above are assumed to originate at the acoustic center of the chiller.

Estimated average sound pressure Lp at a given distance on a reflective surface in a free field environment.