

# SUBMITTAL

# **Project**

Chillers 2023

# <u>Date</u>

lunes, 13 de marzo de 2023

**General Contractor** 

Mechanical Contractor

yectos

Mechanical Engineer

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Prepared By:	09:44a. m.

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### **Unit Information**

Tag Name:	Chiller 25 TR 460	
Model Number:		
Condenser Type:	Air Cooled	
Compressor Type:		
Nameplate Voltage:		V-Ph-Hz
Quantity:		
Manufacturing Source:	Charlotte, NC USA	
	R410A	
Independent Refrigerant C		
Capacity Control Steps:		
Minimum Capacity:		%
Shipping Weight:		lb
Operating Weight:	1242	lb
Unit Length:		in
Unit Width:		in
Unit Height:		in

### **Accessories and Installed Options**

Evaporator Heater Micro Channel Low Sound - Aero Acoustic Fans Single Point Fixed Speed Condenser Fan

### Chiller Warranty Information (Note: for US & Canada only) First Year - Parts Only (Standard)

## Ordering Information

Part Number	Description	Quantity
30RAP0256D-00100	Packaged Chiller	1
	Base Unit	
	Evaporator Heater	
	Micro Channel	
	Low Sound - Aero Acoustic Fans	
	Single Point	
	Fixed Speed Condenser Fan	

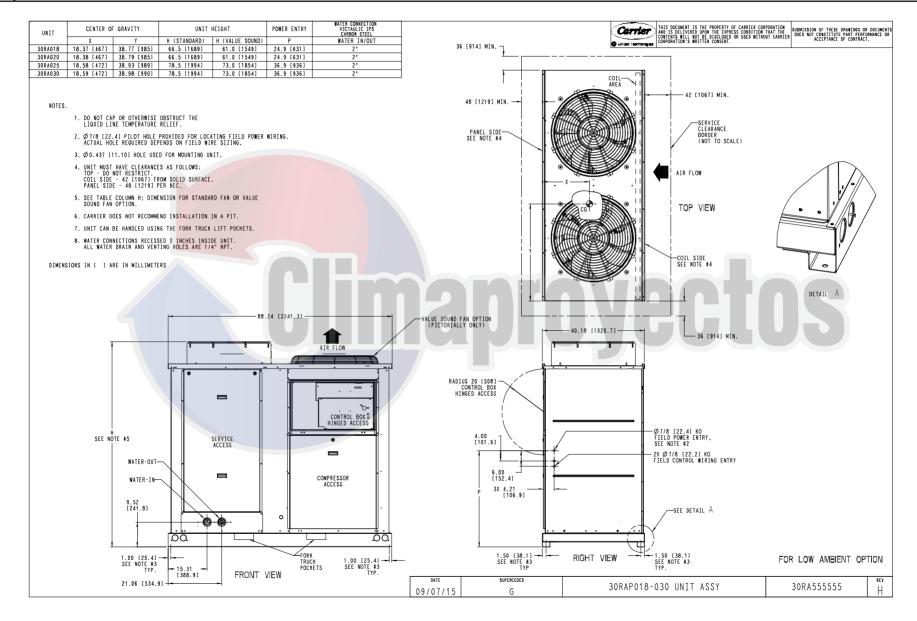


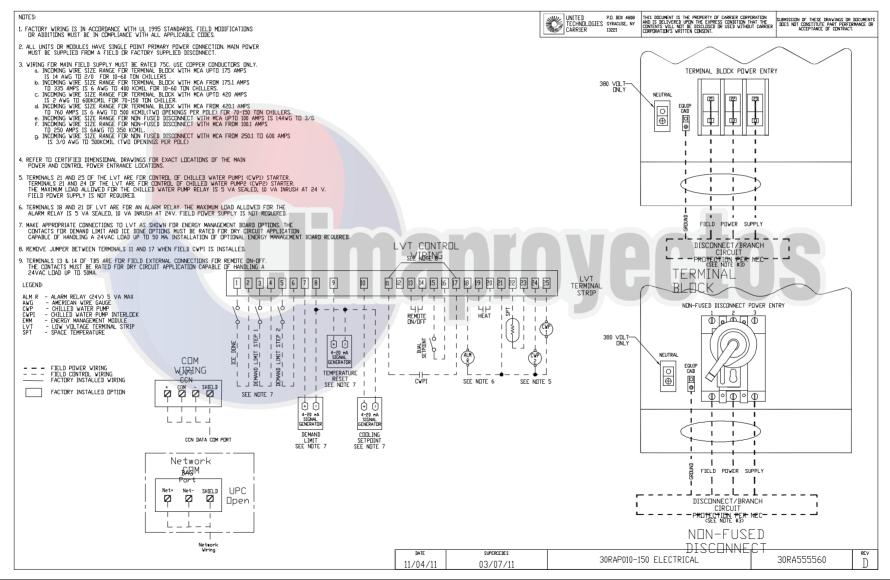
03/15/2023

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# Certified Drawing for Chiller 25 TR 460

#### Project: Chillers 2023 Prepared By:





03/15/2023 09:44a.m.





# AquaSnap™ Air-Cooled Scroll Chiller



#### **Unit Information**

	hiller 25 TR 460	
Model Number:	30RAP025	
Quantity:	1	
Manufacturing Source: Ch	arlotte, NC USA	
ASHRAE 90.1: 2013/2		
Refrigerant:	R-410A	
Independent Refrigerant Ci	rcuits: 1	
Shipping Weight:	1231	lb
	1242	lb
Refrigerant Weight (Circuit	A): 17	lb
Unit Length:		in
Unit Width:	41	in
Unit Height:	79	in
Chiller Pressure Drop*:	18.9	ft H2O

\*Use Chiller Pressure Drop for sizing pumps. This value includes losses due to chiller piping, fittings, 40 mesh factory supplied strainer and BPHX.

#### Evaporator Information

Fluid Type:	Fresh Water	
Fouling Factor:	0.000100	(hr-sqft-F)/BTU
Leaving Temperature:	44.00	°F
Entering Temperature:		°F
Fluid Flow:		
Evaporator Pressure Drop*:		ft H2O
*Refer to Chiller Pressure Dro		

#### **Condenser Information**

Altitude:	ft
Number of Fans:	
Total Condenser Fan Air Flow:19,400	CFM
Entering Air Temperature:	°F

#### **Integrated Pump Information**

No Pump Selected

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



AHRISTANDARD Stores and stores an

#### **Performance Information**

Cooling Capacity:	23.45	Tons
Total Compressor Power:	24.21	kW
Total Fan Motor Power:	2.841	kW
Total Unit Power (without pump):		kW
Efficiency (without pump) (EER):	10.40	BTU/Wh
IPLV:.IP:	15.40	BTU/Wh

#### **Accessories and Installed Options**

Evaporator Heater	
Micro Channel	
Low Sound - Aero Acoustic Fans	
Single Point	
Fixed Speed Condenser Fan	

#### **Electrical Information**

Unit Voltage:		V-Ph-Hz
Connection Type:	Single Point	

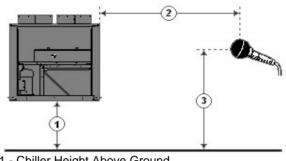
	Electrical	Electrical
Amps	Circuit 1	Circuit 2
MCA	57.8	
MOCP	80.0	
ICF	178.9	
Rec Fuse Size	70.0	

#### **Unit Parameters**

Tag Name: Model Number:	30RAP025	
Condenser Type:	Air Cooled	
Compressor Type:	Scroll	
Chiller Nameplate Voltage:		V-Ph
Hz		
Quantity:	1	
Manufacturing Source:	Charlotte, NC USA	
Refrigerant:		
Shipping Weight:		lb
Operating Weight:		lb
Refrigerant Weight (Circuit A):		lb
Unit Length:		in
Unit Width:		in
Unit Height:		in

#### **Accessories and Installed Options**

**Evaporator Heater Micro Channel** Low Sound - Aero Acoustic Fans



1 - Chiller Height Above Ground

2 - Horizontal Distance From Chiller to Receiver

3 - Receiver Height Above Ground (See Note 3)

Single Point Fixed Speed Condenser Fan

## **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	<b>N</b> (	59	72	79	83	83	83	78	70	89
75% Load		58	68	78	83	84	83	77	67	89
50% Load		56	67	77	82	83	81	76	65	88
25% Load		55	65	75	80	81	80	74	64	86

### 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		32	44	51	55	55	55	50	42	61
75% Load		31	40	50	55	56	55	49	40	61
50% Load		28	40	49	55	56	54	48	38	60
25% Load		28	37	47	52	53	52	46	37	58

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

# Please refer to Performance Output Summary or Detailed Performance Report for Acoustic information







# AquaSnap™ Air-Cooled Scroll Chiller



#### **Unit Information**

Tag Name:	Chiller 2	5 TR 460	
Model Number:		ORAP025	
Condenser Type:	Ai	ir Cooled	
Compressor Type:		Scroll	
Nameplate Voltage:		460-3-60	V-Ph-Hz
Quantity:		1	
Manufacturing Sourc	e: Charlotte,	NC USA	
ASHRAE 90.1:	2013/2016, 20	010, 2007	
Refrigerant:		R-410A	
<b>Capacity Control Ste</b>	ps:	2	
Minimum Capacity:			%
Shipping Weight:			lb
Shipping Weight: Operating Weight:			lb
Refrigerant Weight (	Circuit A):		lb
Unit Length:			in
Unit Width:		41	in
Unit Height:			in
Minimum Outdoor Op	perating Temp	: 45.0	°F
Chiller Pressure Drop	p*:	18.9	ft H2O
*Llos Chiller Drossur	o Drop for aitir		This value

\*Use Chiller Pressure Drop for sizing pumps. This value includes losses due to chiller piping, fittings, 40 mesh factory supplied strainer and BPHX.

#### **Performance Information**

Cooling Capacity:	23.45	Tons
Total Compressor Power:		kW
Total Fan Motor Power:	2.841	kW
Total Unit Power (without pump):		kW
Efficiency (without pump) (EER):		BTU/Wh

#### **Evaporator Information**

Fluid Type: Fouling Factor: Leaving Temperature: Entering Temperature: Fluid Flow: Fluid Flow Min: Fluid Flow Max: *Refer to Chiller Pressure Dro	0.000100 44.00 54.00 56.07 28.00 112.0	°F °F gpm gpm gpm
	112.0 p for sizing pun 14.7	gpm nps. ft H2O

### **Condenser Information**

Altitude:	ft
Number of Fans: 2	
Total Condenser Fan Air Flow:19,400	CFM
Entering Air Temperature:	°F

#### Integrated Pump Information

No Pu	ımp Se	elected			
Accesso	ories a	nd Inst	alled	Optio	ns
Evapo	orator H	leater			
	<u><u></u></u>				

Micro Channel Low Sound - Aero Acoustic Fans Single Point Fixed Speed Condenser Fan

#### **Electrical Information**

Unit Voltage:	460-3-60	V-Ph-Hz
Connection Type:	Single Point	

Amos	Electrical Circuit 1	Electrical Circuit 2
Amps MCA	57.8	
MOCP	80.0	
ICF	178.9	
Rec Fuse Size	70.0	

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#### Integrated Part Load Value (AHRI)

IPLV.IP:.....

Unit Performance				
Percent of Full Load Capacity, %	100.00	75.00	50.00	25.00
Percent of Full Load Power, %	100.00	56.54	31.44	15.12
Unloading Sequence	A	A	A	A
Cooling Capacity, Tons	23.45	17.59	11.72	5.862
Total Unit Power, kW	27.05	15.29	8.503	4.090
Efficiency (EER), BTU/Wh	10.40	13.80	16.55	17.20
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	56.07	56.07	56.07	56.07
Fouling Factor, (hr-sqft-F)/BTU	0.000100	0.000100	0.000100	0.000100
Pressure Drop, psi	8.22	8.26	8.30	8.33
Condenser Data				
Entering Air Temperature, °F	95.0	80.0	65.0	55.0

For some 75% operating points, the efficiency may be calculated at a condenser inlet air operating temperature as much as 0.8 degrees higher.

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



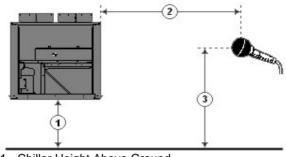
Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.

# **Detailed Performance Summary For Chiller 25 TR 460**

Project: Chillers 2023 Prepared By: 03/15/2023 09:44a.m.

#### **Unit Parameters**

Tag Name:	Chiller 25 TR 460	
Model Number:		
Condenser Type:	Air Cooled	
Compressor Type:		
Chiller Nameplate Voltage:		V-Ph-
Hz		
Quantity:	1	
Manufacturing Source:	Charlotte, NC USA	
Refrigerant:		
Shipping Weight:		lb
Operating Weight:		lb
Refrigerant Weight (Circuit A):		lb
Unit Length:		in
Unit Width:		in
Unit Height:		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** 

Evaporator Heater Micro Channel Low Sound - Aero Acoustic Fans



### Acoustic Information

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

Octave Band Center Frequency, Hz	31	63	125	250	500	1k	2k	4k	8k	Overall
100% Load		59	72	79	83	83	83	78	70	89
75% Load		58	68	78	-83	84	83	77	67	89
50% Load		56	67	77	82	83	81	76	65	88
25% Load		55	65	75	80	81	80	74	64	86

# Table 2. <u>A-Weighted Sound Pressure Levels</u> (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		32	44	51	55	55	55	50	42	61
75% Load		31	40	50	55	56	55	49	40	61
50% Load		28	40	49	55	56	54	48	38	60
25% Load		28	37	47	52	53	52	46	37	58

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