



Project: ACDS Stock Chillers - JH	Consultant: Zachary Colon
Location:	Date: 4/24/25 8:56 AM
PRICE SUMMARY	

Tag	Model	Location	Qty	Net
CHILLER ACDS-1	ACDS090ARBB		1	\$209,399.56
Project Total				\$209,399.56

Chiller - ACDS090ARBB

Description	List	Net
Tag - CHILLER ACDS-1 ▪ Manufacturer DBUSA ▪ Base Price (R-454b Unit, Voltage: 460V/3/60) ▪ HGBP: Hot gas bypass for low load operation Auto Lead Lag ▪ LUV: Protective grille condenser Wire fin guard top ▪ LNF - Low Noise Fan ▪ DBD: DB Director ▪ DSIV: Compressor Discharge Isolation Valve ▪ LAL: Low ambient lockout ▪ UVR: Over/under/phase (standard) ▪ Capacity (Tons): 92.00, Input power (kW): 103.52, RLA (A): 165, Ampacity: 165, Unit max. fuse/HACR CB size: 175, Refrigerant: R-454b ▪ Fluid flow (USgpm): 220.2, EFT (°F): 54.0, LFT (°F): 44.0, Pressure drop (psi): 5.9, Fouling factor (h·ft²·°F/Btu): 0.00010, Fluid: Water ▪ Design ambient (°F): 95.00, Altitude (ft): 0.00	\$174,045.81 \$4,167.14 \$9,746.98 \$16,616.47 STD STD STD STD	
Unit List / Net Adds	\$204,576.40	\$0.00

Shipped loose items

Description	List	Net
RIS: Rubber in shear isolator	\$931.76	
TDFS: Thermal Dispersion Flow Switch	\$3,891.40	
Shipped Loose List / Net Adds	\$4,823.16	\$0.00
Total List/Net Adds	\$209,399.56	\$0.00
Net Total (1 count at 1.0 mult)		\$209,399.56
Grand Total		\$209,399.56



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Scroll Compressor Air Cooled Package Chiller

Model #	ACDS090ARBB
Quantity	1 Rating version
Manufacturer	ACDG14 DBUSA

Physical Specifications

Compressor Qty	4	Shipping weight (lb)	5,191
Length (in)	152.00	Operating weight (lb)	5,259
Width (in)	89.00	Refrigerant	R-454b
Height (in)	88.00	Approx. refrigerant charge (lb)	229

Conditions of service

Percent of full load	100%	Compressor power (kW)	89.12
Capacity (Tons)	92.00	Total Fan Power (kW)	14.40
Unit power (kW)	103.5	Cooling Efficiency (EER, Btu /W.hr)	10.66
		IPLV.IP (EER, Btu /W.hr)	15.69

Evaporator

Fluid	Water	Leaving fluid temp. (°F)	44.00
Fluid flow rate (USgpm)	220.2	Fouling factor (h·ft ² ·°F/Btu)	0.000100
Entering fluid temp. (°F)	54.00	Pressure drop (psi/ft.H ₂ O)	5.95/13.7
		Fluid freezing point (°F)	32.00

Condenser

Design ambient (°F)	95.0	Altitude (ft)	0.000
		Fan Motor Power (kW) (Qty)	2.400 (6)

Electrical characteristics

Unit power supply	460V/3ph/60Hz	Unit rated load amps	157.0
Control power	115V/1ph/60Hz	Unit min. circuit ampacity (A)	165.0
Unit max. fuse/HACR CB size (A)	175.0	Comp. rated load amps (A)	33.0(4)
		Comp. locked rotor amps (A)	260.0(4)

Notes

- 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.
- Meets ASHRAE 90.1-2019 Path A chiller minimum efficiency guidelines

- Refrigerant charge may vary. Unit nameplate will show final factory charge.
- The electrical data is being projected base on 95F ambient temperature, Please consult factory for all other ambient temperature

IPLV.IP Points at Standard AHRI Rating Conditions

% Full load	Tons	Unit kW	Comp. kW	Fan kW	Evap. EFT	Evap. LFT	EER	Ambient(°F)
100%	92.00	103.5	89.12	14.40	54.00	44.00	10.66	95.0
75%	69.00	60.56	46.16	14.40	51.50	44.00	13.67	80.0
50%	46.00	32.72	21.28	11.44	49.00	44.00	16.87	65.0
25%	23.00	14.75	9.080	5.670	46.50	44.00	18.71	55.0

Sound Data

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000	Total dB(A)
Sound Pressure Level (free field) at 32.80 ft	17	27	45	55	54	51	45	35	59

*Sound Pressure Level (free field) ± 2 dB(A) Tolerance

Standard Equipment

Unit Construction

- Unit shall be constructed of heavy gauge G90 galvanized steel
- All sheet metal parts are painted with oven baked epoxy / polyester powder paint, sustaining 1000 hour salt spray test in accordance with ASTM B-117

Hermetic Scroll Compressors

- Strap on belt type crankcase heater or sump heater
- Compressor staging on all units
- One (1) year warranty. (Factory provides standard warranty of 12 months from start up or 18 months from shipment date)



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- Control panel IP54

whichever occurs first. Limited to parts replacement only and excludes freight, taxes/duties, labours, consumable items, etc. Machine must be well maintained by DB authorized service representative.)

Air Cooled Condenser	Evaporator
▪ None ▪ Subcooling circuit(s) ▪ Direct drive fans with internal motor protection ▪ Standard operation to 45°F ambient using fan cycling	▪ Braze Plate Heat Exchanger(Optional Shell & Tube Heat Exchanger) ▪ Single and True Dual Evaporator ▪ Plate material AISI 316 ▪ Fully insulated
Refrigeration Specialties	
▪ Thermal expansion valve(Standard for ACDS010-090) ▪ Liquid line solenoid valve (Standard with thermal expansion valve) ▪ Sight glass ▪ Two compressors per refrigerant circuit ▪ Refrigerant charge of R-454b ▪ Electronic expansion valve (optional for ACDS010-090, standard for ACDS100-180)	
Code Compliance	
▪ Units conform to NEC, NEMA, ANSI/ASHRAE 15 ▪ Units conform and certified to ANSI/UL Std. 1995 & CAN/CSA Std. C22.2 No.236 (ETL Listed)	
Controls	
▪ DB Director microcomputer controller on all models ▪ Two line 16 character alpha numeric display control functions ▪ Compressor loading/staging based on leaving fluid temperature ▪ Evaporator fluid freeze protection ▪ High and low pressure protection ▪ Staggered starting of compressors ▪ Anti-recycle timing in controller ▪ Fan cycling ▪ Accepts remote start & stop signal ▪ Keyboard accessed LCD readouts, continuously updated ▪ Discharge and suction pressure for all circuits	
Optional Equipment/Service Included	
Factory Mounted Options Included	Accessories (Shipped Loose)
▪ Hot Gas By-Pass ▪ Protective grille condenser (LUV). For the maximum protection of condenser fins. ▪ Low Noise Fan (LNF) - incorporate low noise fans to reduce unit sound level ▪ Display units: English - provides English units display on DB Director (standard). ▪ Rubber-in-shear isolators (RIS) - designed for ease of installation, these rubber, one piece, molded isolators have skid resistant baseplates. Applicable for most installations.	



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- NOTES:
1. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
 2. ALLOW 60 [1524] CLEARANCE FOR CONTROL PANEL.
 3. EXTERNAL WATER PIPING MUST BE SUPPORTED TO MINIMIZE EXTERNAL WEIGHT ONTO EVAPORATOR OR UNIT.
 4. IF VIBRATION ISOLATORS ARE INSTALLED, FLEXIBLE CONNECTIONS SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE EVAPORATOR WATER CONNECTIONS TO ISOLATE THE VIBRATION IN THE WATER PIPING.
 5. PLEASE CONSULT FACTORY FOR CERTIFIED DRAWING IF OTHER OPTION IS SELECTED.

OPTION ITEMS (TICK WHERE APPLICABLE)

OPTION 1: VIBRATION ISOLATORS

- ☐ NIL
- ☒ RUBBER ISOLATOR
- ☐ SPRING ISOLATOR

OPTION 2: PROTECTIVE PANELS

- ☐ NIL

- ☒ WIRE MESH (CONDENSER COIL SECTION ONLY)

- ☐ HAIL GUARD (COMPLETE UNIT)

- OPTION 3: WATER CONNECTOR TYPE

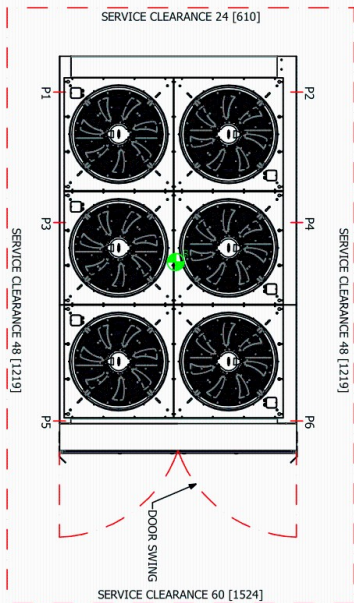
- ☒ STANDARD (VICTAULIC)

- ☐ FLANGE

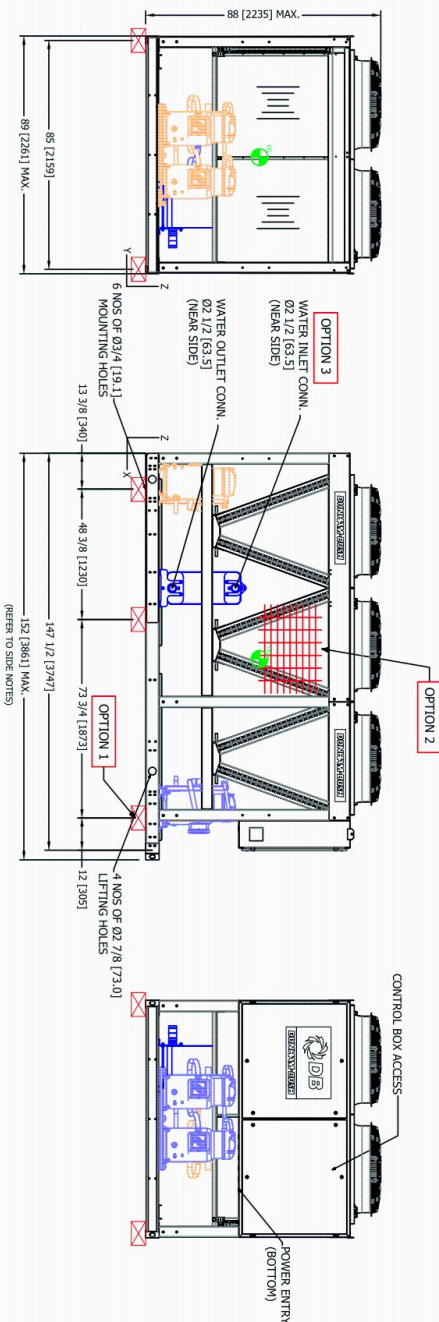
- ☐ MNPT

DIMENSION CHANGES C/W STANDARD OPTION
> IF BOTH MAIN INCOMING ISOLATOR & SOFT STARTER ARE SELECTED, UNIT MAXIMUM LENGTH TO BE INCREASED BY 4 [101.6]
> LOW AMBIENT KIT (LA1 / LA2 ONLY):
ADDITIONAL CONTROL BOX MIGHT BE ADDED, AND THE UNIT COMPONENT LAYOUT MIGHT BE CHANGED.
(UNIT MAX. LENGTH INCREASE IS FOR SHIPPING AND MOVING REFERENCE, BASE SKID MIGHT NOT CHANGE)

POINT	P1	P2	P3	P4	P5	P6
POINT LOAD LBS (KG)	774 [351]	747 [339]	966 [438]	869 [394]	901 [409]	891 [404]



CHILLED WATER CONNECTION INLET/OUTLET



CERTIFIED DRAWING

OPTION 2: PROTECTIVE PANELS

- ☒ NIL

SHIP WEIGHT LBS (KG)	ORIENT. WEIGHT LBS (KG)	CENTRE OF GRAVITY (X,Y,Z) INCHES
090	5079 [2304]	5147 [2335]

CG: CENTRE OF GRAVITY

SHIP WEIGHT LBS (KG)	ORIENT. WEIGHT LBS (KG)	CENTRE OF GRAVITY (X,Y,Z) INCHES
090	5191 [2355]	5291 [2385]

CG: CENTRE OF GRAVITY

OPTION 3: WIRE MESH (CONDENSER COIL SECTION ONLY)

SHIP WEIGHT LBS (KG)	ORIENT. WEIGHT LBS (KG)	CENTRE OF GRAVITY (X,Y,Z) INCHES
090	5599 [2540]	5607 [2570]

CG: CENTRE OF GRAVITY

ALL DIMENSIONS ARE IN INCHES [MM]

This is computer generated drawing.
No signature required



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LOCATION

QTY.

MODEL AODS09060HzR454B

PROJECT STANDARD

TITLE

ARCOOLEDCHILLER

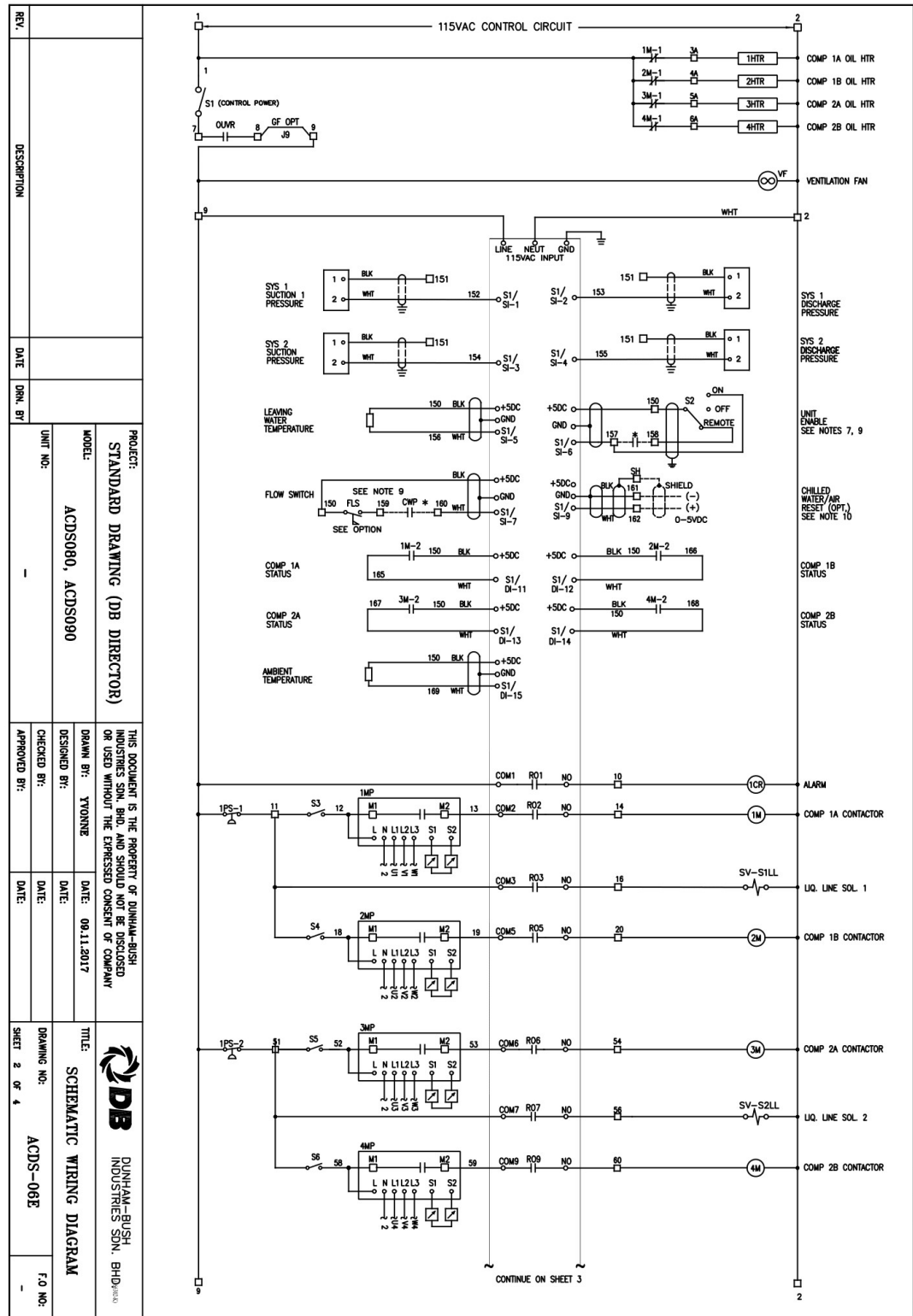
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SCALE: N.T.S. SHEET 1 OF 1

DBLSENGC02 REV00 1001

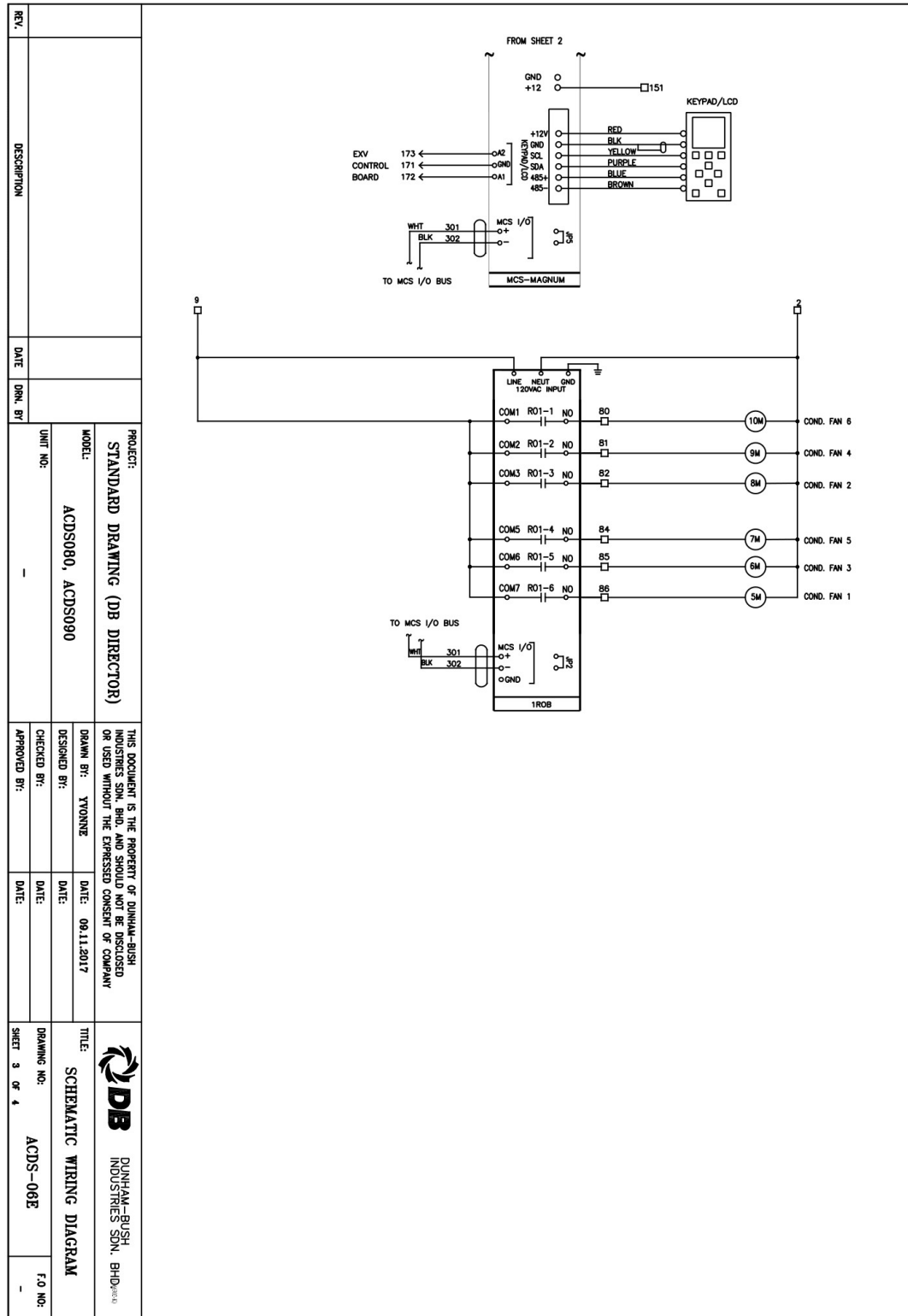


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TO/ENG/ELD/05 REV.8 11/15



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REV.	DESCRIPTION	DATE	DWN. BY	UNIT NO.	MODEL: ACDS080, ACDS090	PROJECT: STANDARD DRAWING (DB DIRECTOR)	<table border="1"><caption>RECOMMENDED FAN STAGING</caption><thead><tr><th></th><th>SYSTEM 1</th><th>SYSTEM 2</th></tr></thead><tbody><tr><td>BASE FANS</td><td>6</td><td>5</td></tr><tr><td>STAGE 2</td><td>4</td><td>3</td></tr><tr><td>STAGE 3</td><td>2</td><td>1</td></tr></tbody></table> • COIL HEADER		SYSTEM 1	SYSTEM 2	BASE FANS	6	5	STAGE 2	4	3	STAGE 3	2	1		HOT GAS BYPASS OPTION ☐ 1 SYSTEM ☐ 2 SYSTEM ☒ NOT FURNISHED
								SYSTEM 1	SYSTEM 2												
							BASE FANS	6	5												
							STAGE 2	4	3												
STAGE 3	2	1																			
LOW AMBIENT OPTION ☐ FURNISHED ☒ NOT FURNISHED	CHILLER LINK OPTION (N2 / LONWORKS / BACNET MSTP) ☒ FURNISHED ☐ NOT FURNISHED																				
EVAPORATOR HEATER OPTION ☐ FURNISHED ☒ NOT FURNISHED	ALARM BELL ☐ FURNISHED ☒ NOT FURNISHED	<table border="1"><thead><tr><th>VOLT</th><th>10FU, 11FU</th></tr></thead><tbody><tr><td>208</td><td>10A</td></tr><tr><td>380/460/575</td><td>5A</td></tr></tbody></table> CONVENIENCE OUTLET OPTION ☐ FURNISHED ☒ NOT FURNISHED	VOLT	10FU, 11FU	208	10A	380/460/575	5A													
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208	10A																				
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DOOR LATCH SOLENOID OPTION ☐ FURNISHED ☒ NOT FURNISHED	PILOT LIGHT OPTION ☐ FURNISHED ☒ NOT FURNISHED	GROUND FAULT OPTION ☐ FURNISHED ☒ NOT FURNISHED																			

TS/ENG/ELD/OS REV.8 11/15