



6/14/2016

Mechanical Service, Inc.
James Dwyer
400 Presumpscot Street
Portland, ME 4103

Reference: Submittal PR# 124158 / Project: Shipyard Brewing Company

Dear James,

Please find the attached submittal for your Shipyard Brewing Company project for record.

If you have any further questions or comments, please contact Randy Maxey .

Best regards,

Margo Goodall

Administrative Assistant



Mechanical Service, Inc.

Project: Shipyard Brewing Company

PR: 124158

6/14/2016

Mechanical Service, Inc.
James Dwyer

Century Refrigeration

Condensing Unit Accessories

Representative **IRESKO**
Project **Shipyards Brewing Company**
PR: **124158-001**

Specifications

Model **NSB25H7**
Quantity **1**
Refrigerant **R507**

Conditions

Design Ambient **95°F**
Suction Temp. **27.1°F**

Capacity

Capacity Circuit 1 **229,978 BTUH**

Physical

Dimensions **174x48.5x65 in**
Est. Operating Weight **3092 lbs.**
Est. Shipping Weight **2980 lbs.**

Electrical

Unit Voltage **460/3/60**
Control Voltage **115**
RLA **65 Amps**
MCA **76 Amps**

Unit Accessories

- Fused Evaporator Fan Contactor
- Unit Circuit Breaker w/Through The Panel Handle (460 Volt)
- A419 Thermostat with LCD Display - Shipped Loose
- Defrost Time Clock - Time/Temperature
- 2 KVA Transformer w/15 Amp GFI Outlet
- Control Circuit Transformer
- Unit Phase Failure Monitor
- B20 Flood Control w/Receivers (Below +20°)
- Liquid Line Drier (Replaceable Core) & Sight Glass
- Liquid Line Solenoid w/Manual Lift Stem - Shipped Loose
- Suction Accumulator
- Suction Filter w/Replaceable Core
- Suction Vibrasorber - Mounted
- Open Door Latch Each Door



Air Cooled Condensing Unit Rating

Condensing Unit Model:	NSB25H7	Compressor Quantity:	1
Refrigerant:	R507	Fan Quantity:	4
Condenser Capacity @ 1°F TD:	18516	Altitude:	0 ft.

Circuit 1

Compressor:	Quantity: 1	Type: 4HE-25
Fan:	Quantity: 4	Description: 1 hp, 28" dia, 1140 rpm
Coil:	0.5" Diameter, 4 Row(W) Condenser (Smooth)	
	FPI: 12	Fin Height: 46.25 Fin Length: 160

60 HZ Rating
 Standard Rating
 Compressor safety override is OFF
 Note: Capacity based on 8 degrees sub cooling

Suction	Ambient	Cond. Temp.	Capacity [BTUH]	Unit [kw]	Unit EER	Condenser Capacity [BTUH]	TD
23°F	90°F	105.2°F	223,752	24.7	9.1	280,945	15.2°F
23°F	95°F	109.8°F	212,613	25.3	8.4	272,644	14.8°F
23°F	100°F	114.3°F	201,548	25.8	7.8	264,305	14.3°F
23°F	105°F	118.9°F	190,224	26.3	7.2	255,551	13.9°F
23°F	110°F	123.4°F	178,979	26.8	6.7	246,760	13.4°F
28°F	90°F	106.5°F	246,086	25.6	9.6	304,201	16.5°F
28°F	95°F	111°F	233,954	26.2	8.9	295,288	16°F
28°F	100°F	115.5°F	221,731	26.8	8.3	286,143	15.5°F
28°F	105°F	120°F	209,415	27.4	7.6	276,760	15°F
28°F	110°F	124.5°F	197,002	27.9	7.1	267,137	14.5°F
33°F	90°F	107.8°F	269,935	26.5	10.2	328,632	17.8°F
33°F	95°F	112.3°F	256,571	27.2	9.4	318,872	17.3°F
33°F	100°F	116.7°F	243,313	27.9	8.7	309,089	16.7°F
33°F	105°F	121.2°F	229,755	28.5	8.1	298,833	16.2°F
33°F	110°F	125.6°F	216,311	29.1	7.4	288,558	15.6°F
38°F	90°F	109.2°F	295,154	27.4	10.8	354,035	19.2°F
38°F	95°F	113.6°F	280,691	28.2	10	343,610	18.6°F
38°F	100°F	118°F	266,135	28.9	9.2	332,933	18°F
38°F	105°F	122.4°F	251,484	29.6	8.5	321,999	17.4°F
38°F	110°F	126.8°F	236,735	30.2	7.8	310,805	16.8°F

We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions, or replacements for equipment previously sold or shipped.

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Report Created On: 6/7/2016

Report Created By: DAVEN

NOTES:

DENOTES COMPONENTS LOCATED EXTERNAL OF U.L. ENCLOSURE
 () INDICATES TERMINAL BLOCK
 () INDICATES WIRE NUMBER IDENTIFICATION
 FIELD WIRING --- (BY OTHERS)
 FAN MOTORS ARE INHERENTLY PROTECTED.
 3 PHASE MOTORS ARE PROTECTED AGAINST
 PRIMARY SINGLE PHASING.

** TO PROTECTED POWER SOURCE PER N.E.C.

CONTROL CIRCUIT POWER: BY OTHERS TO SEPARATE SOURCE
 (115/60/1)
 (230/60/1)
 OTHER BY FACTORY
 TOTAL MIN. VA 2441

PRESSURE LINE	COLOR	CODE
FREZE	BLUE	
LOW	BLUE	
HIGH	RED	
FAN CYCLE	RED	
DIL HIGH	BLACK	
DIL LOW	BLUE	

LEGEND

AA-Audible Alarm
 ADC-Alarm Dry Contact
 AF-Flow Interlock
 BBH-Bally Band Heater
 BM-Blower Motor
 C-Contactor
 CDH-Crankcase Heater
 CF-Condenser Fan
 COMP-Compressor
 CPR-Crankcase Press. Reg.
 CST-Cooling Stage Tstat
 CT-Current Transformers
 DDPF-Dif. Disch. Press. Reg.
 DEF-Evap. Defrost Load
 DPH-Drain Pan Heaters
 DS-Door Interlock Sol.
 DSHS-Desuperheat hot gas sol.
 DTS-Discharge Line Temp. Stat
 EF-Evap. Fan Load
 EPR-Evap. Press. Reg.
 FCS-Fan Cycle Control
 FS-Flow Switch
 FZ-Freeze Safety
 GR/Gr-Ground
 HCC-Heater Cable, Chiller
 HCR-Heater Cable, Receiver
 HGS-Hot Gas Bypass Sol.
 HGD-Hot Gas Defrost Sol.
 HP-High Pressure Safety
 HTR-Unit Heater
 LAL-Low Amp. Lock Out Tstat
 LI-Liquid Injection Sol.
 LLL-Low Liquid Level
 LPS-Load Limit Press. Switch
 LLS-Liquid Line Sol.
 LO-Lo Press. Control
 MET-Meter Elapsed Time
 MSD-Man. Sw. Door
 MSHS-Man. Sw. Horn Silence
 MSHDA-Man. Sw. Hand-Off-Auto
 MSL-Mod. Sw. Lead Lag
 MSPD-Man. Sw. Pumpdown
 MSPDR-Man. Sw. Pumpdown BFF Run
 MSPHM-Man. Sw. Phase Monitor
 OF-Oil Failure Safety
 OS-Oil Separator Sol.
 OVL-Overload
 PHM-Phase Monitor
 PM-Power Module, Compressor Box
 R-Relay
 RH-Evap. Reheat Load
 RHC-Reheat Control
 RSH-Reheat 3 Way Valve Solenoid
 SP-Spray Pump
 SUMP-Sump Heater
 TD-Time Delay
 TM/TD-Time Delay
 TPMS-Timer Part. Wind Start
 UL3-Unloader Sol.
 UPS-Unloading Press. Sw.

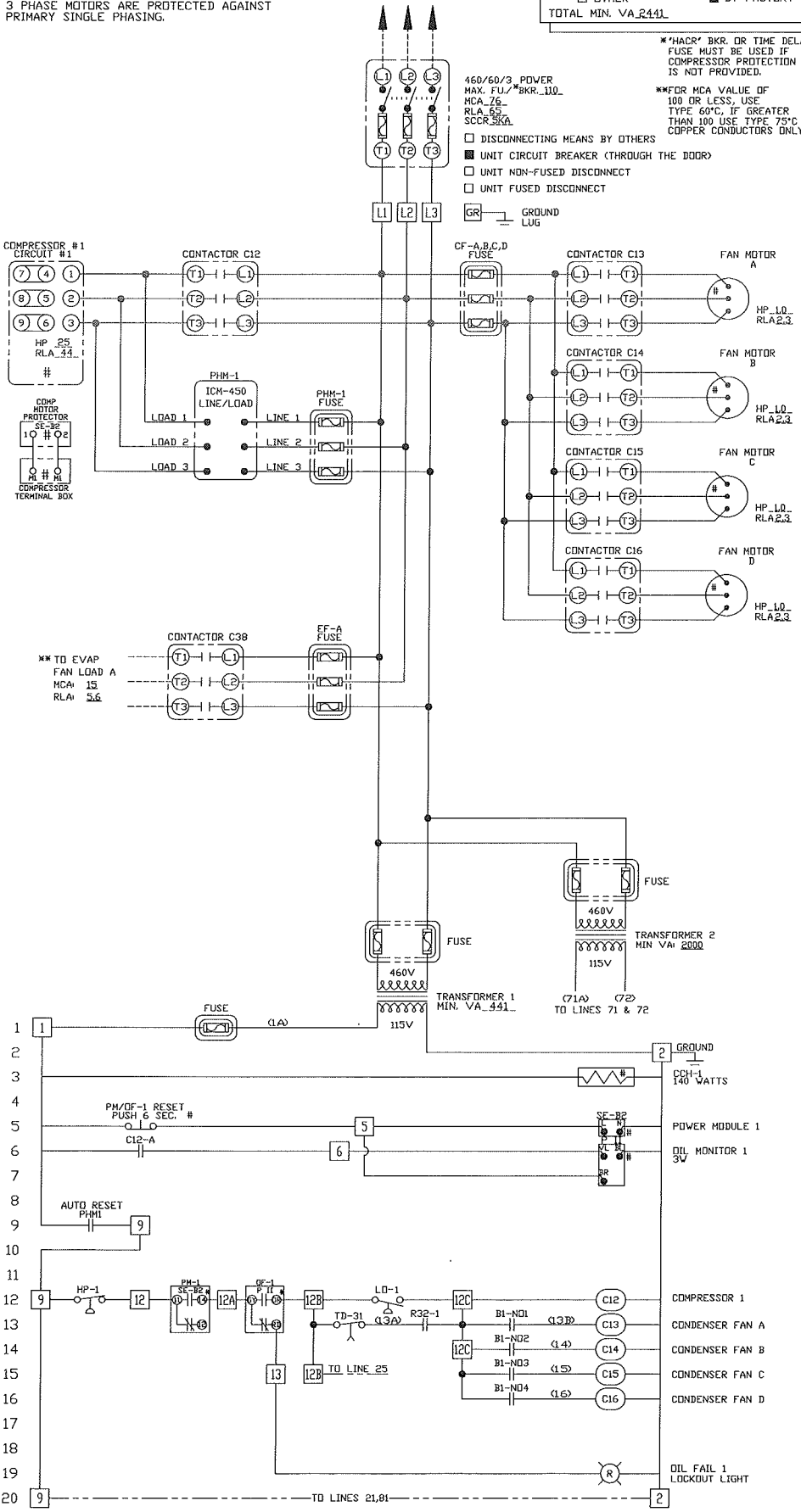
**HACR* BKR. OR TIME DELAY FUSE MUST BE USED IF COMPRESSOR PROTECTION IS NOT PROVIDED.

**FOR MCA VALUE OF 100 OR LESS, USE TYPE 60°C, IF GREATER THAN 100 USE TYPE 75°C COPPER CONDUCTORS ONLY

460/60/3 POWER
 MAX. FLU/BKR. 110
 MCA 76
 RLA 65
 SCCR 5KA

- DISCONNECTING MEANS BY OTHERS
- UNIT CIRCUIT BREAKER (THROUGH THE DOOR)
- UNIT NON-FUSED DISCONNECT
- UNIT FUSED DISCONNECT

GR GROUND LUG



FILE# ACAD 2016

PRESSURE SETTINGS

AIR COOLED CONTROL	HIGH TEMP	R-507
HIGH PRESSURE	MAN	400
LOW PRESSURE	50	20
FREZE CONTROL	MAN	70
UNLOADERS	50	75
UNLOADERS	55	70
FAN CYCLE/FAN DELAY	270	200
2-STEP FAN CYCLE, A	270	200
2-STEP FAN CYCLE, B	280	210
3-STEP FAN CYCLE, A	270	200
3-STEP FAN CYCLE, B	280	210
3-STEP FAN CYCLE, C	290	220
4-STEP FAN CYCLE, A	270	200
4-STEP FAN CYCLE, B	280	210
4-STEP FAN CYCLE, C	290	220
4-STEP FAN CYCLE, D	300	230

REV	BY	DATE
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REVISIONS

DATE: 06/08/16

SCALE: N/A

SUB-TITLE: ELECTRICAL SCHEMATIC

PAGE 1 of 3

CENTURY REFRIGERATION DIVISION RAC CORPORATION

NSB25H7

DRAWING NUMBER: 124158A

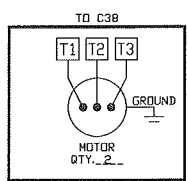
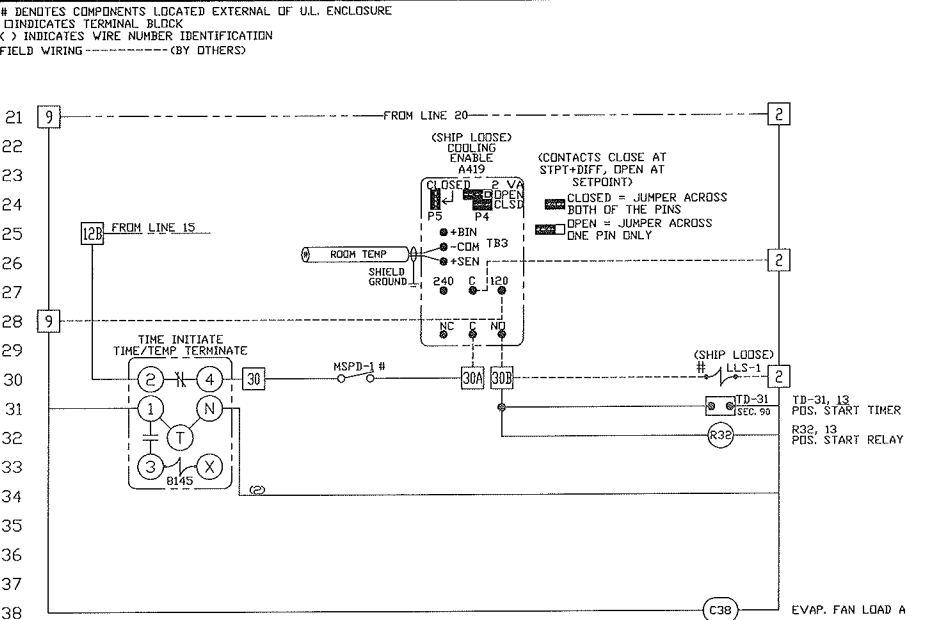
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BY: R/R

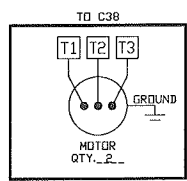
CHKD BY: R/R

NOTES:
 # DENOTES COMPONENTS LOCATED EXTERNAL OF U.L. ENCLOSURE
 □ INDICATES TERMINAL BLOCK
 () INDICATES WIRE NUMBER IDENTIFICATION
 FIELD WIRING ----- (BY OTHERS)

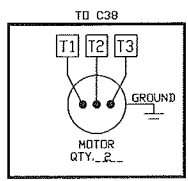
- LEGEND**
- AA-Audible Alarm
 - ADC-Alarm Dry Contact
 - AFI-Air Flow Interlock
 - BH-Belly Band Heater
 - BLM-Blower Motor
 - C-Contactor
 - CCH-Crankcase Heater
 - CF-Condenser Fan
 - COMP-Compressor
 - CPR-Crankcase Press. Reg.
 - CST-Cooling Stage Tstat
 - CT-Current Transformers
 - DDPR-Diff. Disch. Press. Reg.
 - DEF-Evap. Defrost Load
 - DPH-Drain Pan Heaters
 - DS-Door Interlock Sol.
 - DHS-Desuperheat hot gas sol.
 - DTS-Discharge Line Temp. Stat
 - EF-Evap. Fan Load
 - EPE-Evap. Press. Reg.
 - FCS-Fan Cycle Control
 - FS-Flow Switch
 - FZ-Freeze Safety
 - GR-Ground
 - HCC-Heater Cable, Chiller
 - HCR-Heater Cable, Receiver
 - HGBS-Hot Gas Bypass Sol.
 - HGD-Hot Gas Detrost Sol.
 - HP-High Pressure Safety
 - HR-Unit Heater
 - LALT-Low Amb. Lock Out Tstat
 - LIS-Liquid Injection Sol.
 - LLL-Low Liquid Level
 - LLPS-Load Limit Press. Switch
 - LIS-Liquid Line Sol.
 - LO-La Press. Control
 - MET-MeterElapsed Time
 - MSD-Man.Sw. door
 - MSHS-Man. Sw. Horn Silence
 - MSHDA - Man. Sw. Hand-Off-Auto
 - MSLL-Man. Sw. Load Lag
 - MSPD-Man. Sw. Pumpdown
 - MSPDR-Man. Sw. Pumpdown Off Run
 - MSPHM-Man.Sw. Phase Monitor
 - OF-Oil Failure Safety
 - OS-Oil Separator Sol.
 - OLA-Overload
 - PHM-Phase Monitor
 - PK-Power Module, Compressor Box
 - R-Relay
 - RH-Evap. Reheat Load
 - RHC-Reheat Control
 - RHS-Reheat 3 Way Valve Solenoid
 - SFP-Spray Pump
 - SJMP-Sump Heater
 - TD-Time Delay
 - TM/TD-Time Delay
 - TPWS-Timer Part Wind Start
 - ULS-Unloader Sol.
 - UPS-Unloading Press. Sw.



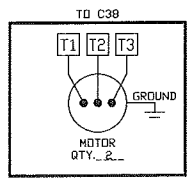
EVAP. MODEL # A527-371A



EVAP. MODEL # A527-371A



EVAP. MODEL # A527-371A



EVAP. MODEL # A527-371A

FILE# ACAD 2016

PRESSURE SETTINGS

AIR COOLED CONTROL		HIGH TEMP
		R-507
	IN	OUT
HIGH PRESSURE	MAN	400
LOW PRESSURE	SO	20
FREEZE CONTROL	MAN	70
UNLOADER A	60	75
UNLOADER B	55	70
FAN CYCLE/FAN DELAY	270	200
2-STEP FAN CYCLE, A	270	200
2-STEP FAN CYCLE, B	280	210
3-STEP FAN CYCLE, A	270	200
3-STEP FAN CYCLE, B	280	210
3-STEP FAN CYCLE, C	290	220
4-STEP FAN CYCLE, A	270	200
4-STEP FAN CYCLE, B	280	210
4-STEP FAN CYCLE, C	290	220
4-STEP FAN CYCLE, D	300	230

REVISIONS

NO	BY	DATE

SCALE: N/A

DATE: 06/08/16

SUB-TITLE: ELECTRICAL SCHEMATIC

PAGE 2 of 3

CENTURY REFRIGERATION

DIVISION: P&E COORDINATION

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

QUANTITY CONTROL: [Signature]

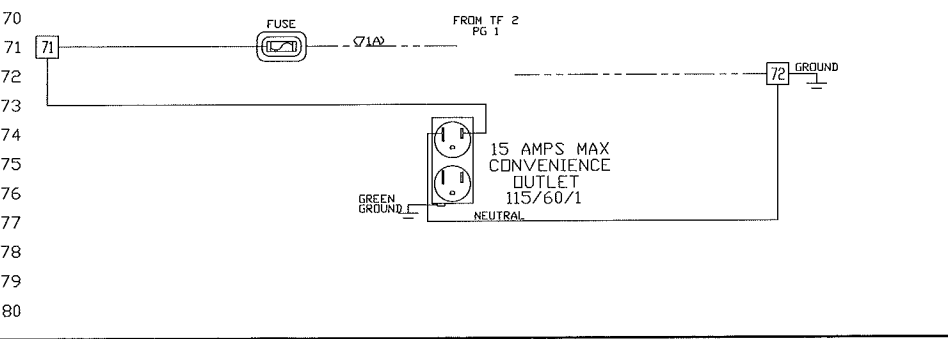
DATE: 06/08/16

PR: 124158

DESIGNER: RYC

DRAWING NUMBER: 124158E1B

TITLE: NSB25H7

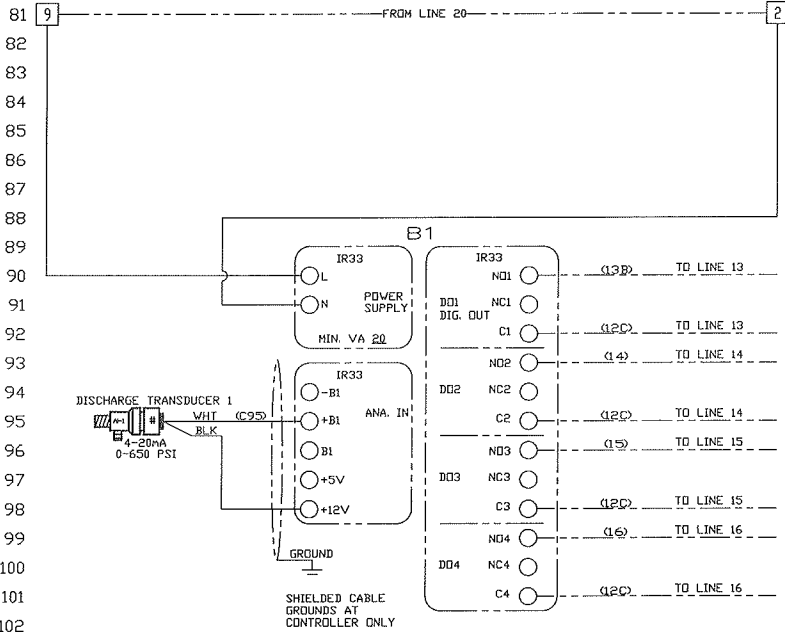


NOTES:

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LEGEND

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- ADC-Alarm Dry Contact
- AFI-Air Flow Interlock
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- BLM-Blower Motor
- C-Contactor
- CDH-Crankcase Heater
- CF-Condenser Fan
- COMP-Compressor
- CPR-Crankcase Press. Reg.
- CSF-Cooling Stage Tstat
- CT-Current Transformers
- DOPR-Diff. Disch. Press. Reg.
- DEF-Evap. Defrost Load
- DPH-Drain Pan Heaters
- DS-Door Interlock Sol.
- DSHS-Discharge Hot Gas Sol.
- DTS-Discharge Line Temp. Stat
- EF-Evap. Filt. Load
- EPR-Evap. Press. Reg.
- FCS-Fan Cycle Control
- FS-Flow Switch
- FZ-Freeze Safety
- GC-Drum
- HCC-Heater Cables, Chiller
- HCR-Heater Cable, Reconvler
- HGS-Hot Gas Bypass Sol.
- HGD-Hot Gas Defrost Sol.
- HP-High Pressure Safety
- HTR-Unit Heater
- LAL-Low Amb. Lock Out Tstat
- LIS-Liquid Injection Sol.
- LLI-Low Liquid Level
- LLPS-Load Limit Press. Switch
- LIS-Liquid Line Sol.
- LG-Lg. Press. Control
- MET-Meter Elapsed Time
- MCD-Man. Sw. Door
- MSHS-Man. Sw. Horn Silence
- MSHOA-Man. Sw. Hand-Off-Auto
- MSL-Man. Sw. Lead Lag
- MSPD-Man. Sw. Pumpdown
- MSPDR-Man. Sw. Pumpdown Diff. Run
- MSPHM-Man. Sw. Phase Monitor
- OF-Oil Failure Safety
- OS-Oil Separator Sol.
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- PM-Power Module, Compressor Box
- R-Relay
- RH-Evap. Reheat Load
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- RHS-Reheat 3 Way Valve Solenoid
- SPR-Spray Pump
- SUMP-Sump Heater
- TD-Time Delay
- TM/TD-Time Delay
- TPWS-Timer Part Wind Start
- ULS-Unloader Sol.
- UPS-Unloading Press. Sw.



IR33 SETTINGS

PARAMETER	SETTING
C21	-30
C22	300
C13	16
C15	0
C16	650
C33	1
P1	99.9
C34,C38,C42,C46	1
C36	70
C40	80
C44	90
C37,C41,C45,C49	-70
P26	800
C48	100
SETPDINT	200
PASSWORD	77

FILE# ACAD 2016

PRESSURE SETTINGS

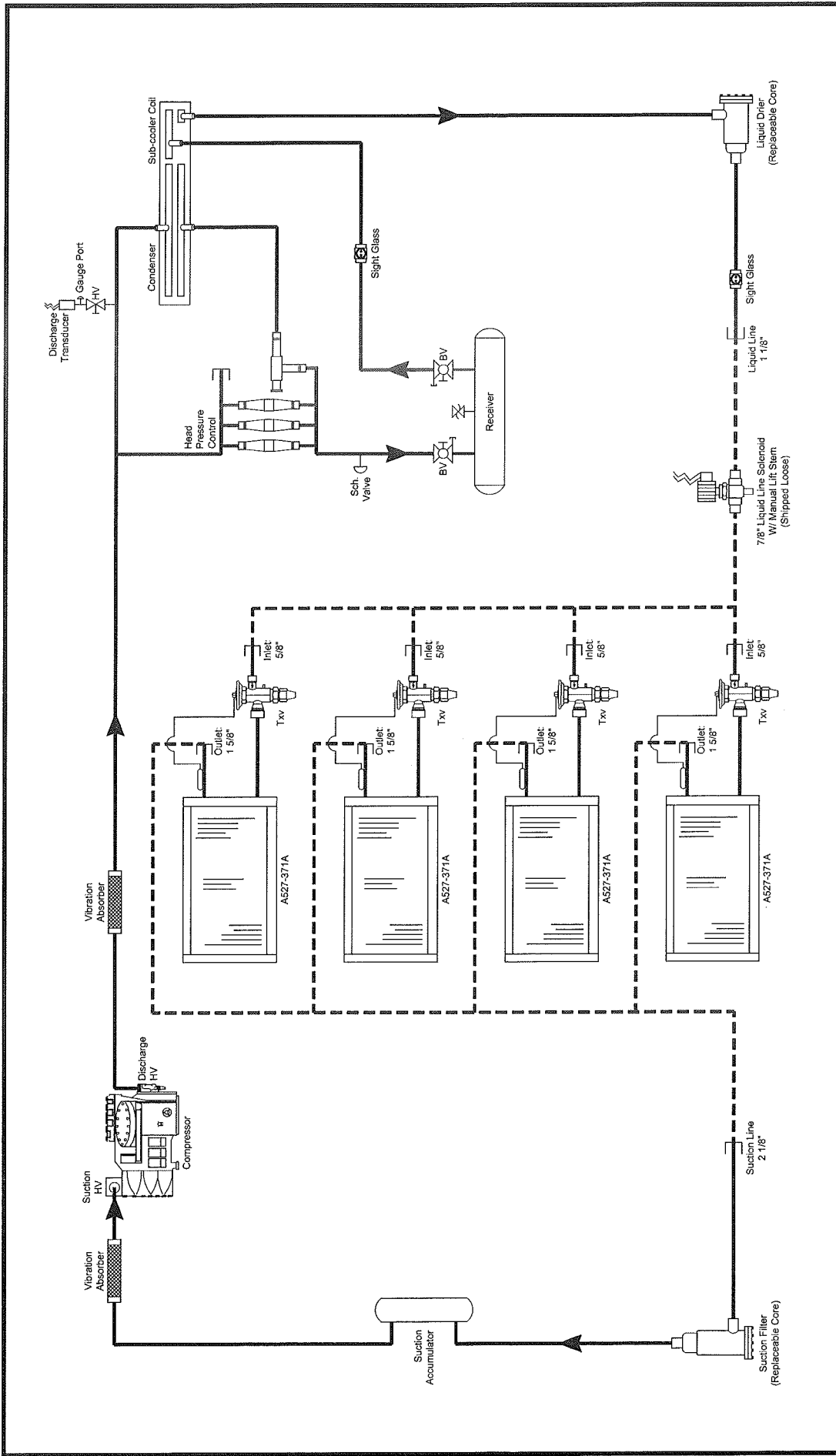
AIR COOLED CONTROL	HIGH TEMP	IN	OUT
	R-507	MAN	MAN
HIGH PRESSURE	400	50	20
LOW PRESSURE	50	20	70
FREIZE CONTROL	MAN	70	75
UNLOADER A	55	70	210
UNLOADER B	270	200	210
FAN CYCLE/FAN DELAY	270	200	210
2-STEP FAN CYCLE A	270	200	210
2-STEP FAN CYCLE B	280	210	220
3-STEP FAN CYCLE A	270	200	210
3-STEP FAN CYCLE B	280	210	220
3-STEP FAN CYCLE C	290	220	230
4-STEP FAN CYCLE A	270	200	210
4-STEP FAN CYCLE B	280	210	220
4-STEP FAN CYCLE C	290	220	230
4-STEP FAN CYCLE D	280	210	220

NO.	REV.	BY	DATE

SCALE: N/A
 DATE: 06/09/16
 SUB-TITLE: ELECTRICAL SCHEMATIC
 PAGE 3 of 3

DIVISION: R&E COOPERATION
 DESIGNER: [blank]
 DATE: [blank]
 DRAWING NO.: [blank]
 DRAWN BY: R/R
 P/R: 12-4158
 DRAWING NUMBER: 124158E/C

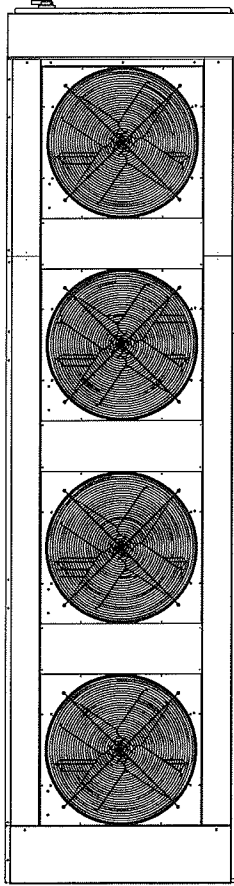
TITLE: NSR25H7



CENTURY REFRIG. CO., INC. DALLAS, TEX. CORPORATION		TITLE: Refrigerant Piping NSB25H7		SCALE: N/A DATE: 06/09/16 SUB-TITLE:	DESIGNED BY: APPROVED BY:	DRAWN BY: CRB FILE LOC: ACA02016 DRAWING NUMBER: 124158P1	REVISED BY: DATE:
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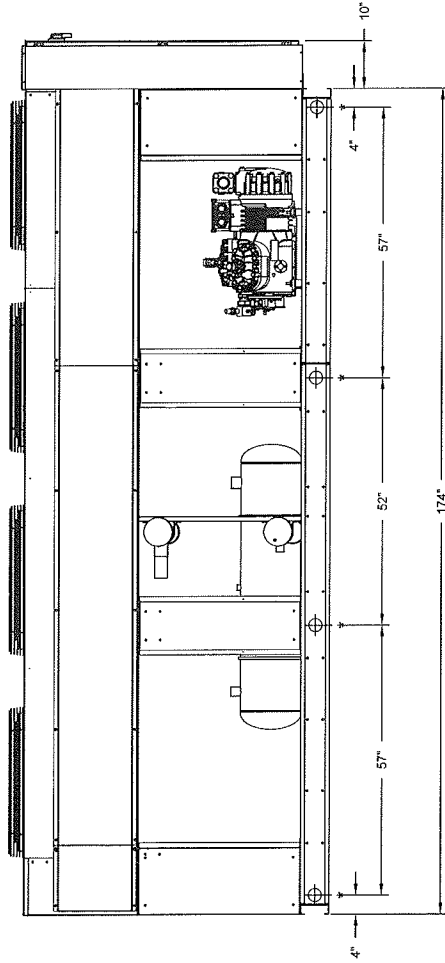
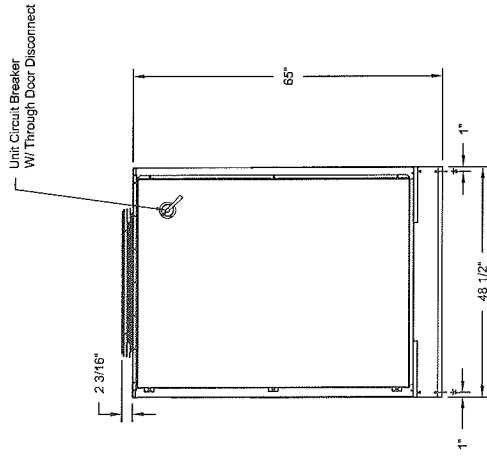
- - - - - Field Piping
 _____ Oil System Piping
 External Equalizer Line

Shown With Some Optional Components



**Minimum Recommended Service Clearances:
48" All Sides**

Please refer to the Installation, Operation and Maintenance Manual for installation recommendations



⊕ 2-1/2" Ø Rigging Holes
* 5/8" Ø Mounting Holes
Est. Shipping Weight: 2,980 lbs
Est. Operating Weight: 3,092 lbs



TITLE:
Unit Drawing
NSB25H7

SCALE: 1/2" = 1'-0"
DATE: 06/09/16
SUB-TITLE:

ENGINEER'S APPROVED BY:
PR 124158

QUALITY CONTROL APPROVED BY:

DRAWN BY: CRB
FILE LOC: ACA02016
DRAWING NUMBER: 124158U1

REVISED BY:	DATE:	REV. NO.:

Century Refrigeration

Unit Cooler Accessories

Representative **IRESKO**
Project **Shipyards Brewing Company**
PR: **124158-002**

Specifications

Model **A527-371A**
Quantity **4**
Refrigerant **R507**
Capacity **57,494**

Conditions

Box Temperature **40°F**
Evap. Temperature **28.1°F**
TD **11.9°F**
Condensing Temp. **110.8°F**

Electrical

Fan Motor Voltage **460/3/60**

Unit Accessories

- Insulated Drain Pan
- TXV - Mounted
- Fan Motors - 3 Phase



Condensing Unit/Unit Cooler Balance

Total Capacity Required 220,000 BTUH

	Model	Quantity	Capacity
Condensing Unit	NSB25H7	1	233,954
Unit Cooler 1	A 527-371	4	57,457
Unit Cooler 2		0	
Unit Cooler 3		0	
Custom Unit Cooler			
		Balance	4,126

Compressor Type	Best-optimized		
Compressors Per Unit	ALL		
Circuits Per Unit	ALL		
Refrigerant	R507		
Suction Line Loss	1		
Adjust Capacity for Run Time	No Capacity	Run Time 16	
Altitude	0 ft		

** Information is PER SYSTEM

Ambient	Room	Evaporating	Suction	Condensing	TD	Capacity [BTUH]	System [KW]
95°F	40°F	28.1°F	27.1°F	110.8°F	11.9°F	229,978	28.3

Capacity indicated is based upon the line loss shown. Field piping, line sizing, component selection and layout must correlate to the line loss indicated for this capacity to be valid.

We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions, or replacements for equipment previously sold or shipped.

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 Report Created On: 5/25/2016
 Report Created By: RANDY MAXEY

TXV

PR#124158-002

TEV & REFRIGERANT DISTRIBUTOR SELECTION SUMMARY

Refrigerant R- 507 Liquid Temperature (°F): 96
Evaporator Temperature (°F): 28 Dist Tube Length (in): 27
Condenser Temperature (°F): 111 Evaporator Capacity (tons): 4.79

TEV Model: EBSPE-6-C Std Outlet: 5/8 x 7/8 ODF
Distributor: 1112-5-1/4-4 Inlet: 7/8 ODM Nozzle Type: G

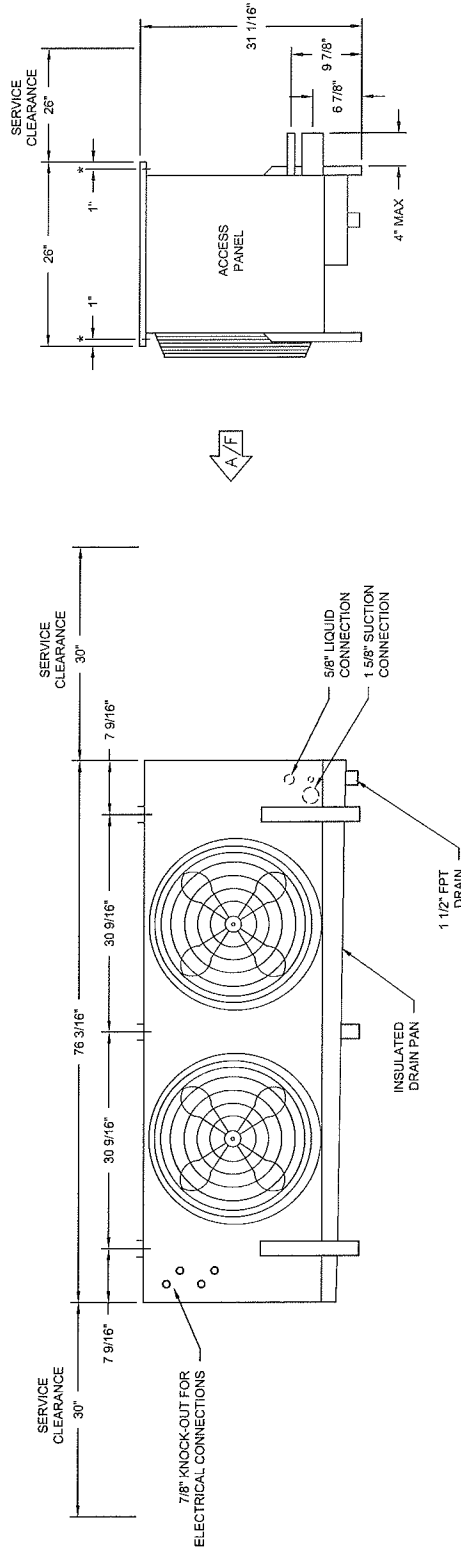
Pressure Drop/Sizing	ΔP (psi)	Pct Rating
Dist Tube OD (1/4):	15	135
Nozzle (#4):	47	162
High Side:	10	[12°F]
TEV:	140	77
Total:	213	

Nozzle G-4 C04807-07

TXV EBSPE-6-C FA1

Distributor 1112-5-1/4 C04705-02

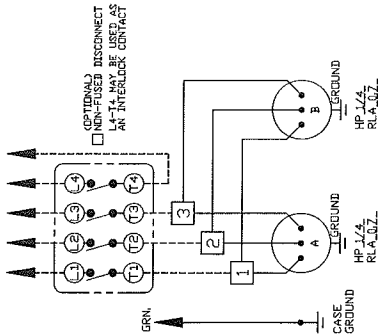
MINIMUM RECOMMENDED SERVICE CLEARANCES
 *Please refer to the Installation, Operation and
 Maintenance Manual for installation recommendation*



<p>*13/16" Mounting Holes Est. Shipping Weight: 461 lbs Est. Operating Weight: 364 lbs</p>				<p>TITLE: Unit Drawing A527-371A</p>		<p>SCALE: 3/4" = 1'-0" DATE: 06/09/16 SUB-TITLE:</p>		<p>DESIGNER'S APPROVED BY: PR 124158</p>		<p>QUALITY CONTROL APPROVED BY:</p>		<p>REVISED BY: DATE:</p>	
				<p>DRAWN BY: CRB FILE LOC: ACAD2016 DRAWING NUMBER: 124158U2</p>									

EVAP. FAN LOAD A

VOLTAGE 460/60/3
MCA 15
RLA 1.4



CONTROL WIRING

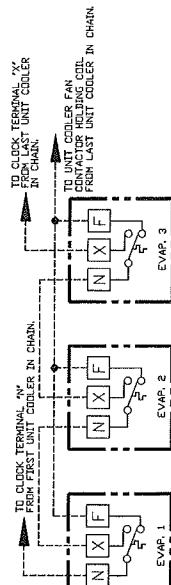
VOLTAGE N/A

DEFROST LOAD A

VOLTAGE N/A
MCA N/A
RLA N/A

FAN MOTORS ARE INHERENTLY PROTECTED.
3 PHASE MOTORS ARE PROTECTED AGAINST
PRIMARY SINGLE PHASING.

MULTIPLE UNIT COOLER WIRING TO ONE CLOCK



REVISIONS

No.	By	Date
1		
2		
3		
4		
5		
6		
7		

CENTURY
REFRIGERATION
DIVISION RAE CORPORATION
DESIGN: N/A
APPROVED BY:

DATE: 05/08/16
SCALE: N/A

SUB-TITLE: 'A' LINE / 'BOC' UNIT COOLER ELECTRICAL SCHEMATIC

TITLE: A527-371A

DRAWN BY: RYR
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