




Thermal Resource Solutions

3000 RDU Center Drive
 Morrisville, NC 27560
 Phone: (919) 618-5779

SUBMITTAL DATA DEHUMIDIFIERS & GLYCOL FCU's

Date:	April 15, 2024		28588 - Lilly RTP ASRS Exp.
Project:	Eli Lilly RTP008 ASRS Expansion	Reviewed By:	<u>DMondrush</u>
Location:	Durham, NC	Review Date:	<u>4/15/2024</u>
Contractor:	Brasfield & Gorrie	Submittal Package:	<u>Mechanical</u>
Engineer:	Gresham Smith	Submittal Item:	<u>15010</u>
Manufacturer:	BMIL	Review Status:	<input checked="" type="radio"/> Reviewed <input type="radio"/> Revise and Resubmit <input type="radio"/> Approved as Noted <input type="radio"/> Not Approved <input type="radio"/> Release per Comments <input type="radio"/> No Exception Taken

The review of the submittal by Brasfield & Gorrie, LLC does not relieve the subcontractor or supplier of its responsibility for the quantity, quality, or accuracy of the work represented herein, nor permits any deviation from the plans, specifications, and Contract.

NOTES:

1. Current lead time is 18 weeks.
2. Submitted with (3) dehumidifiers & (34) fan coil units.

Sales Contact: **John Blakeney**
john.blakeney@coolsys.com


THE FOLLOWING INFORMATION IS PROVIDED FOR REVIEW & APPROVAL.

REVIEWING IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE SITE; FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES OR TO THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF THE CONSTRUCTION; AND FOR THE COORDINATION OF THE WORK OF ALL TRADES.

APPROVED
 APPROVED AS NOTED
 REVISE AND RESUBMIT
 REJECTED
 REVIEWED FOR GENERAL CONFORMANCE ONLY
 DELEGATED DESIGN-REVIEWED FOR GENERAL CONFORMANCE ONLY
 SUBMITTAL NOT REVIEWED

BY Jesse Misner DATE 2024/4/23

Project Number 45760.00



Page Label	Comments
9	FILL IN TABLE
9	PROVIDE TSP FOR FAN OR RECOMMENDED TRAP SIZE FOR THE EQUIPMENT.
10	CONFIRM THIS IS FOR -7SA7F



BMIL SUBMITTAL

BMIL Technologies, LLC.

Date:

To:

Project Name:

WE ARE SENDING YOU:

- Submittal
- Certified Prints
- Drawings- Cold Box
- Drawings- Controls
- Drawings- Doors
- Line sizing tables

CUSTOMER REVIEW (Please Check One):

- Approved
- Approved as Noted
- Revise and Resubmit

Approval Signature: _____

Remarks:

Please review all the specifications and return signed copy to BMIL.

From:

Signature: _____

BMIL Technologies, LLC. SUMMARY

4915 Arendell Street, Morehead City, NC 28557 •
 Tel (252) 727-0994 • Fax (252) 727-0996 • E-mail: bmil@bmil.com • www.bmil.com

SUMMARY 04-15-2024

- REFRIGERATION SYSTEMS

(34) GLYCOL COIL BHP086WA-T4A-7SA75

ENTERED DESIGN REQUIREMENTS

Site Altitude 404 ft	Line Frequency 60Hz
Fluid Type PROPYLENE GLYCOL/WATER	Fluid Concentration 30%
Fluid Fouling Factor 0.0005 h.ft².°F/Btu	Fluid Temperature Range 5 °F to 212 °F
Air Inlet Temperature (DB) 36 °F	Air Inlet Temperature (WB) 34 °F
Fluid Inlet Temperature 25 °F	Fluid Flow Rate 13 USGPM
Fluid Outlet Temperature 31.1 °F	Required Capacity / Unit 37645 BTUH

- DEHUMIDIFICATION SYSTEMS

(3) BMIL SPOT DZ2000 Dehumidifier

Voltage: 460/3/60
 Performance at 2,000 scfm
 Aluminum Housing
 Spot desiccant dehumidifier with variable airflow and variable capacity
 Heat pump design - natural gas not required.
 Installation requires:
 Hanging the unit, wiring it, and installing a condensation drain line

40F Cold Room Capacity							
2,000	40.0	90%	50.2	26.4	1,000	65.0	15
2,000	40.0	70%	48.2	21.1	1,000	65.0	11.6
2,000	40.0	50%	46.2	14.4	1,000	65.0	8.0





BMIL Technologies, LLC.

REFRIGERATION SUBMITTAL



EQUIPMENT SUMMARY

LUISA BISE
BMIL TECHNOLOGIES
4915 ARENDELL ST
MOREHEAD CITY, NC
28557 USA
Ph: 2527270994
Fx: 2527270996
Email: l.bise@bmil.com

CUSTOMER	SHIP TO

QUOTE DATE : 15 Apr 2024	FACTORY ORDER # : 06996.37013.00729P-C00
QUOTE # : Q27BWLBA-C	EST SHIP WEIGHT : 23800 (Less Options)
PROJECT : QTE24050	CUSTOMER ORDER # :

ITM	QTY	PRODUCT NO	DESCRIPTION	DETAILS
		SYSTEM 1	GLYCOL COIL	
001	34	BHP086WA-T4A-7SA75	HIGH PROFILE, GLYCOL COIL	Voltage: 460/3/60
	34	OPTION	INSULATED DRAIN PAN	

TERMS, CONDITIONS AND REMARKS
Please quote **FACTORY ORDER #**

ANY LEAD-TIMES OR DELIVERY DATES INDICATED HEREIN ARE ESTIMATES ONLY AND ARE NOT GUARANTEED.

WARNING: These products can expose you to Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. (For more information go to www.p65warnings.ca.gov)

This equipment is prohibited for use in California with any refrigerants on the "List of Prohibited Substances" for that specific end-use, in accordance with California Code of Regulations, Title 17, section 95374. This disclosure statement has been reviewed and approved by National Refrigeration and Air Conditioning Canada Corp., and National Refrigeration and Air Conditioning Canada Corp. attests, under penalty or perjury, that this statement is true and accurate.

Price Book - 2024 March - LIST Price Book [241] Rev 1.241



**NATIONAL REFRIGERATION AND
AIR CONDITIONING CANADA CORP.**

159 ROY BLVD, PO BOX 2020
BRANTFORD, ON
CANADA N3T 5Y6

BHP086WA-T4A-7SA75

**HIGH PROFILE
GLYCOL COIL**

PURCHASER :

SUBMITTED BY : **LUISA BISE**

PROJECT : **QTE24050**

DATE : **15 Apr 2024**

ORDER # : **06996.37013.00729P-C00**

ITEM # : **1**

QUOTE # : **Q27BWLBA-C**

ID # :

PURCHASER'S PO # :

TAGGING :

MODEL FEATURES

• 7 FPI

CABINET FINISH

- Painted White
- Painted Black
- Stainless Steel

MODEL OPTIONS (* = Shipped Loose)

- Export Crating
- COIL COATING**
- E-Coat

FIN MATERIAL

- Copper Fins
- 1 Insulated Drain Pan**

VOLTAGE		AIR FLOW		CAPACITY
460/3/60		CFM		37600 BTUH

FANS			HEATERS			CIRCUIT TOTAL			
QTY	POWER	FLA/FAN	TYPE	QTY	AMPS	AMPS	WATTS	MCA†	MOP‡
2	1HP	2.4				4.8	2200	5.4	15

DISTRIBUTOR		SOUND	-	REC CAPACITY		APPROVALS
SUCTION		WEIGHT	700 lb	REF CHARGE		

NOTES:
 † MCA.. Minimum Circuit Ampacity, ‡ MOP.. Maximum Overcurrent Protection



APPROVED BY : _____ **DATE :** _____

Approval of this drawing signifies that the equipment is acceptable under the provision of the job specifications. Any change made hereon by any person whomsoever subject to acceptance by NATIONAL REFRIGERATION at its home office.



**NATIONAL REFRIGERATION AND
AIR CONDITIONING CANADA CORP.**
159 ROY BLVD, PO BOX 2020
BRANTFORD, ON
CANADA N3T 5Y6

BHP086WA-T4A-7SA75

**HIGH PROFILE
GLYCOL COIL**

PURCHASER :	SUBMITTED BY : LUISA BISE
PROJECT : QTE24050	DATE : 15 Apr 2024
ORDER # : 06996.37013.00729P-C00	ITEM # : 1
QUOTE # : Q27BWLBA-C	ID # :
PURCHASER'S PO # :	TAGGING :

ENTERED DESIGN REQUIREMENTS

Site Altitude 404 ft	LineFrequency 60Hz
Fluid Type PROPYLENE GLYCOL/WATER	Fluid Concentration 30%
Fluid Fouling Factor 0.0005 h.ft².°F/Btu	Fluid Temperature Range 5 °F to 212 °F
Air Inlet Temperature (DB) 36 °F	Air Inlet Temperature (WB) 34 °F
Fluid Inlet Temperature 25 °F	Fluid Flow Rate 13 USGPM
Fluid Outlet Temperature 31.1 °F	Required Capacity / Unit 37645 BTUH

SELECTED MODEL DETAILS

Fan Configuration 1 x 2	Tubes 144
Voltage 460/3/60	Tube Configuration 1/2 x 1.25 x 1.083 in
Motor Standard	Tube Rows 4
Fin Style 0.0075 in Aluminum Sine Wave	Tubes Per Row 36
Fins Per Inch 7	Fin Block Dimensions 80 x 45 x 4 21/64 in
Air Flow Direction N.A.	Air Flow 15009 CFM

CALCULATED DETAILS

Feeds 18	Tubes Per Feed 8
Face Area 25 ft²	Blank Tubes 0
Internal Volume 1.4 ft³	Connection Size 1 1/8 in Same End
Model Capacity 37600 BTUH	Calculated Fluid Flow Rate 13 USGPM
Capacity Variance -0.1 %	Fluid Velocity 1.2 ft/s
Actual Fluid Outlet Temperature 31.2 °F	Fluid Pressure Drop 1.1 psi
Air Outlet Temperature 33.7 °F	Actual Air ΔT 2.3 °F

**THE VALUES CONTAINED HERIN ARE BASED ON LABORATORY FINDINGS
AND THE INITIAL CONDITIONS ENTERED BY THE USER.**

**INFORMATION IS GIVEN GRATIS AND THE MANUFACTURER ASSUMES NO
OBLIGATION OR LIABILITY FOR ACTUAL RESULTS OBTAINED.**

Approval of this drawing signifies that the equipment is acceptable under the provision of the job specifications. Any change made hereon by any person whomsoever subject to acceptance by NATIONAL REFRIGERATION at its home office.



**NATIONAL REFRIGERATION AND
AIR CONDITIONING CANADA CORP.**

159 ROY BLVD, PO BOX 2020
BRANTFORD, ON
CANADA N3T 5Y6

BHP086WA-T4A-7SA75

**HIGH PROFILE
GLYCOL COIL**

PURCHASER :

SUBMITTED BY : **LUISA BISE**

PROJECT : **QTE24050**

DATE : **15 Apr 2024**

ORDER # : **06996.37013.00729P-C00**

ITEM # : **1**

QUOTE # : **Q27BWLBA-C**

ID # :

PURCHASER'S PO # :

TAGGING :

SELECTED OPTION DESCRIPTIONS

Insulated Drain Pan

Moisture resistant Armaflex or equal insulation between inner drain pan and exterior skin.

Approval of this drawing signifies that the equipment is acceptable under the provision of the job specifications. Any change made hereon by any person whomsoever subject to acceptance by NATIONAL REFRIGERATION at its home office.



**NATIONAL REFRIGERATION AND
AIR CONDITIONING CANADA CORP.**

159 ROY BLVD, PO BOX 2020
BRANTFORD, ON
CANADA N3T 5Y6

Order Item No: 1
BHP086WA-T4A-7SA75

**HIGH PROFILE
GLYCOL COIL**

DATE : **15 Apr 2024**

PURCHASER :

PROJECT : **QTE24050**

SUBMITTED BY : **LUISA BISE**

NATIONAL REFRIGERATION will furnish equipment in accordance with this drawing and specifications, and subject to its published warranty. Approval of this drawing signifies that the equipment is acceptable under the provision of the job specifications. Any change made hereon by any person whomsoever subject to acceptance by NATIONAL REFRIGERATION at its home office.

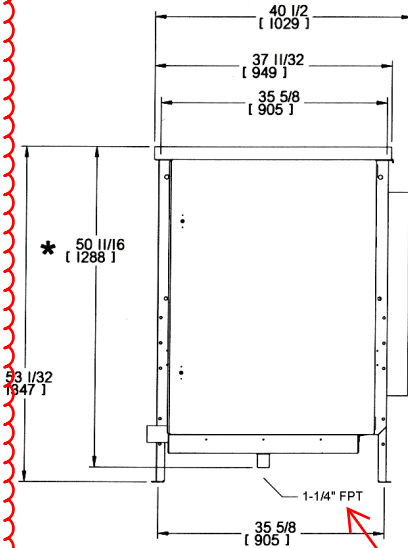
Dimensions shown are for standard unit less options.

FILL IN TABLE

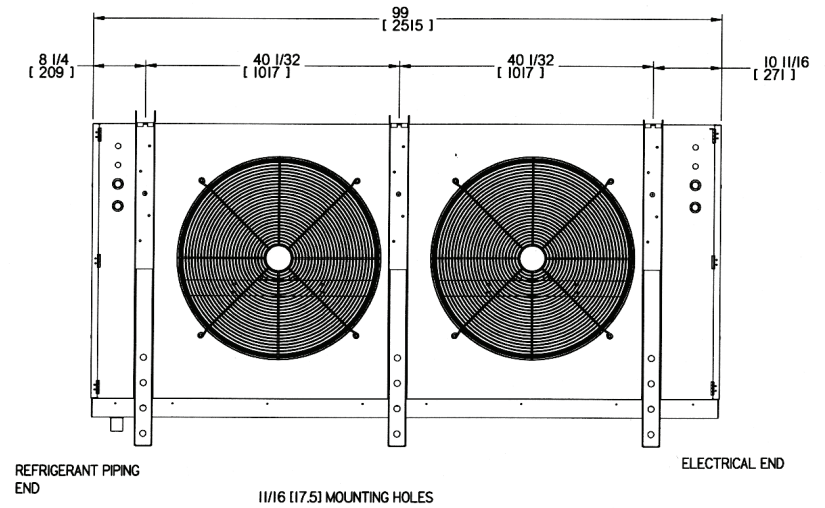
DIMENSIONS	
DIMENSION A	
DIMENSION B	
DIMENSION C	
DIMENSION D	
DIMENSION E	
DIMENSION F	
DIMENSION G	
DIMENSION H	

CONNECTIONS	
DISTRIBUTOR	
SUCTION	
DRAIN	
WATER	
DISCHARGE	
PAN LOOP	
HOT GAS SIDE PORT	
HOT GAS INLET	
HOT GAS OUTLET	
OTHER	
SHIPPING WEIGHT	700 lb
REFRIGERANT CHARGE	
RECEIVER CAPACITY	

APPROVALS			



* Allow up to an additional 1-1/2" for hot gas loop option.



**PROVIDE TSP FOR FAN OR
RECOMMENDED TRAP SIZE
FOR THE EQUIPMENT.**

NOTES:

SERVICE PARTS LIST - BHP086WA-T4A-SN-X493

CONFIRM THIS IS FOR -7SA7F

Part No	Part Descriptions	Class	Quantity
1080803-001	DRAIN PAN: HP 2 FAN AIR DEF.	DEFROST HEATERS / DRAIN PANS	1
1080749	FAN #Y12E06G3030.62KWCWD / #61221301	FAN BLADES / MOTORS ETC	2
1078534	FAN GUARD / KHP UNIT COOLER - REV "B"	FAN BLADES / MOTORS ETC	2
1080803-201	INSULATED DRAIN PAN ASS'Y: 2 FAN	DEFROST HEATERS / DRAIN PANS	1
1080737	MOTOR #56T8O5547A/#35U871Q956G1 230/460	FAN BLADES / MOTORS ETC	2
1045017	TERMINAL BLOCK #ERB-30 50 AMP	ELECTRICAL	1
1080875	WIRING DIAGRAM: AIR-DEFROST HIGH PROFILE	LITERATURE	1

Total: 7

Features

Motor No. 56T8O5547	Catalog NA	Edited By kraut
Model 56T8O5547A		Effective Date 02/11/2005
Description 1,850,OPAO,56Z,3/60/208-230/460		NP Seq 0
Product Line Fractional	Channel MAR	Status Active
Auth BOM/RT Y.Y	Stock Class B	Source Location WP

Nameplate Data

N/P Part No.

Hertz 60	Volts 208-230/460	Hertz 50	Volts 220/380
HP 1		HP 3/4	
KW 0.75	FL Amps 4.8-4.8/2.4	KW 0.56	FL Amps 4.8/2.1
FL PF (Cos)		FL PF (Cos)	
FL Eff	SF Amps None	FL Eff	SF Amps
Eff. 75%		Eff. 75%	
SF 1.0	RPM 850	SF 1.0	RPM 700
Assembly Mtg F1 ONLY	NP Frame 56HZ		Motor Type TS
NEMA Design B	Phase 3		Insulation Class B3
Duty CONTINUOUS AOM	Max Amb(C') 60		Enclosure OPAO
Full Load Rise	IP Code 01		IC Code 08
KVA Code H	PE Bearing		OPE Bearing
UL W-INS, CONST, AUTO LOCK UL REC			CSA Y
CC Number EXEMPT	Lead Desc. VCD AT A		CE
Protector AUTOMATIC	Prot. Number		Thermostats NONE
Wdg. RTDs NONE			Thermistors NONE
Hazardous Loc NONE			
Stack Length 4.5	Max KVAR		CrAmps
Rotation REV	Lubrication STANDARD		Carton Label
Insulation System STANDARD	Shaft Dia.		Shipping Wt. 46