- Marley Cooling Technologies
- Armstrong Pumps & Heat Exchangers
- Laars Heating Systems
- ClimateMaster Heat Pumps
- Square D Variable Speed Drives

- SMARDT Chillers
- Trend/ Novar Controls
- PEP Filters
- Boiler Room Accessories
- Cooling Tower Service

SUBMITTAL DATA

TO:	**iCON Mechanical**	SUBMITTAL DATE	**May 20, 2016**
ATTENTION:	**Alex Chambers**	CUSTOMER P.O. #	
PHONE:		REVISION	
FAX:		PREPARED BY	**Eric Eyler / BC**
		QUOTE NUMBER	**16-0213.1**
PROJECT	**Webster Univ ISB**	CURRENT LEAD TIME	**Weeks**
ENGINEER	**William Tao**		
LOCATION	**Webster Groves, MO**		

QTY.	TAG	DESCRIPTION

Alfa Laval Heat Exchangers

1 PHX-1 ***Alfa Laval Brazed Plate Model: CB30-34H T06***
Cold Side: 44 F EWT 60 F LWT 13 gpm Water 2.39 psi PD
Hot Side: 70 F EWT 60 F LWT 21 gpm Water 6.18 psi PD
Weight: 12.7 lbs

This data is submitted for:

[XX] APPROVAL
A purchase order commitment has been issued to MIDWEST MACHINERY COMPANY. Items will not be fabricated or delivered until this approval is returned verifying acceptance.

[ ] RECORD PURPOSES
A purchase order commitment has been issued to MIDWEST MACHINERY COMPANY. Items are being fabricated or delivered. This data provided for record purposes.

[ ] RE-SUBMITTAL
The items submitted are to record revisions, corrections, or requests for further information on items previously submitted.

Alfa Laval Plate Heat Exchanger Specification

Customer :
Project : (Untitled 0)
Item : **Date : 3/18/2016**

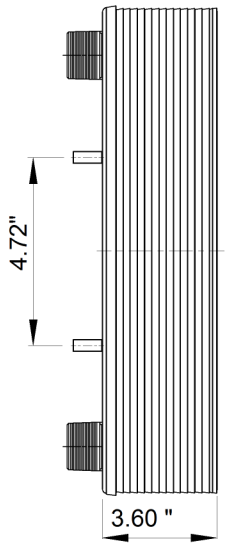
Model: CB30-34H T06

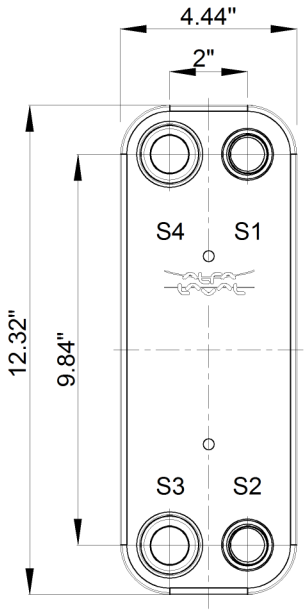
		Hot Side		Cold Side
Fluid		Water		Water
Volume flow rate	GPM	21.0		13.0
Inlet temperature	°F	70.0		44.0
Outlet temperature	°F	60.0		60.1
Pressure drop	psi	6.18		2.39
Heat exchanged	kBtu/h		105.01	

Density	lb/ft³}	62.3	62.4
Specific heat	Btu/lb,°F	1.00	1.00
Thermal conductivity	Btu/ft,h,°F	0.347	0.341
Viscosity	cP	0.981	1.13

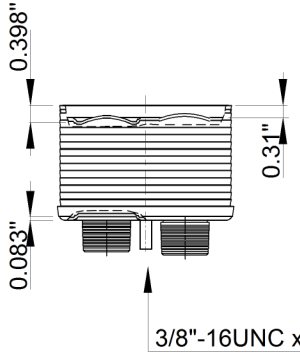
Material plate / brazing	Alloy 316 / Cu
Connection material	Stainless Steel
ConnectionS1 (Cold-in)	Threaded (External)/ 1" NPT (F21) Alloy 316 NPT
ConnectionS2 (Cold-out)	Threaded (External)/ 1" NPT (F21) Alloy 316 NPT
ConnectionS3 (Hot-in)	Threaded (External)/ 1" NPT (F21) Alloy 316
ConnectionS4 (Hot-out)	Threaded (External)/ 1" NPT (F21) Alloy 316 NPT

Pressure vessel code			UL/CRN	
Design Pressure @ -320.000000	Psig	450.		450.
Design Pressure @ 400.000000	Psig	450.		450.
Design Temperature	°F		-320.0/400.0	
Overall length x width x height	in		5 x 4 x 12	
Net weight, empty / operating	lb		12.7 / 16.6	





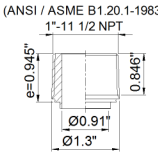
T1 T2 T3 T4 locations on back side
correspond to S1 S2 S3 S4 on front side



ALL DIMENSIONS IN INCHES

Note that all unique customer requirements (i.e tolerance) need to be verified thru Alfa Laval.

F 21
Alloy 316
S1,S2,S3,S4



HEATING SURFACE	23.72 ft²	PLATE MATERIAL	Alloy 316	TOTAL LENGTH	4.63
NET WEIGHT	12.72 lb			TOTAL WIDTH	4.45
OPERATINGWEIGHT	16.64 lb	PLATE GROUPING	1*16H / 1*17H	TOTAL HEIGHT	12.32

MEDIA	INLET	TEMP.	OUTLET	TEMP.	FLOW RATE	PRESSURE DROP	LIQUID VOL.
Water	S3	70.0 °F	S4	60.0 °F	21.0 GPM	6.178 psi	0.03051 ft³
Water	S1	44.0 °F	S2	60.1 °F	13.0 GPM	2.390 psi	0.03242 ft³

SUPPLIER	REF.	MP NO.
AGENT / REF.		
CUSTOMER NAME / REF. NO.		
SIGN.		

PLATE HEAT EXCHANGER

CB30-34H T06

UL/CRN

ITEM ID.
32870 9921 9

DATE
2016-03-18

REV NO. 0

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: February 8, 2017

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Nolte

Project No. WT 14127.01

[ ] UPS [ ] Courier [X] **Email**

Copies	No.	Description
1 PDF	235000M13	(Submittal No.'s:) ~~(R&B CxSRC)~~
		(Cannon #235000-014) - (Paric #15051-0460) – ~~(WES #607)~~
		➢ **Plate Heat Exchanger**

Submittal Review Comments

Contractor responsible for fitment when submitting equipment different than basis of design.

c: **Kelvin Patel**
Kpatel@cannondesign.com

[ ] Furnish as Submitted
[X] ***Furnish as Noted**
[ ] Rejected
[ ] Revise & Resubmit
[ ] Reviewed
[ ]

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

14127.01 - 235000 M13
MTN TO REVIEW
01/26/17

WTASHOP - Webster ISB - 23 5000-014

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, "WTASHOP (WTASHOP@wmtao.com)" <WTA...
Date: 1/26/2017 5:17 PM
Subject: Webster ISB - 23 5000-014
Cc: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>
Attachments: 235000-014 Plate Heat Exchanger Product Data.pdf

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Attached for review.

Melissa Pirtle

CANNONDESIGN

1100 Clark Ave
St. Louis, Missouri 63102
T 314.425.8797
cannondesign.com

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

Joe Voypick
SUBMITTED BY

235000-014
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

235000
SPECIFICATION SECTION / PARAGRAPH

icon Mech
MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

◯ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ◯ Shop Drawings
- ◯ Samples (_____ copies)
- ◯ LEED Submittal
- ◯ Certification / Qualifications
- ◯ Record Documents
- ◉ Product Data
- ◯ Coordination Drawing
- ◯ Calculations
- ◯ Schedules
- ◯ O&M Manuals
- ◯ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ◯ Information Only ◯ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

Joe Voypick
REVIEWED BY

1/26/17
DATE

To be completed by Reviewer

23 5000-014
CANNON DESIGN SUBMITTAL NUMBER

1/26/17
RECEIVED DATE

- ◯ A. No Exceptions Taken
  No further review of submittal is required.
- ◯ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ◯ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ◯ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ◯ E. For Record / Information Only
  Submittal was reviewed for Record / Information purposes only.
- ◯ F. Not Required for Review
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ◯ See attached sheet(s) for additional comments

REVIEWED BY

DATE

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0460

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 01/26/2017

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Plate Heat Exchanger Product Data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		235000-014	1		01/26/2017	Plate Heat Exchanger Product Data	Submitted

NOTES:

CC:

Signed: _____

Devin Gates

Mechanical

LETTER OF TRANSMITTAL

TO: Paric Corporation
77 West Port Plaza #250
St. Louis, MO 63146

ATTN: Jason Szachnieski, Devin Gates

DATE: 1/25/17
JOB # : 5768
RE: Webster ISB

We are sending you
( ) Attached ( ) Under separate cover
(X) Shop drawings ( ) Prints ( ) Plans ( ) Samples ( ) Specifications
( ) Copy of letter ( ) Change order ( ) Other

COPIES	DATE	NO.	DESCRIPTION
1	1/25/17	235000-2.16	Plate Heat Exchanger

These are transmitted as checked below:

( ) For signature ( ) Approved as submitted ( ) Resubmit ( ) copies for approval
( ) For your use ( ) Approved as noted (X) Submit ( ) copies for distribution
( ) As requested ( ) Returned for corrections ( ) Return ( ) corrected prints
( ) For bids due ( ) Prints returned after loan to us
(X) For review and comment ( ) Other

Remarks: Please return by 2/1/17

COPY TO: file

SIGNED: Alex Chambers

Webster University ISB
Webster Groves, MO

Submittal #:	235000-2.16
Submittal Description:	Plate Heat Exchanger
Return By:	2/1/17

Please Note: To avoid scheduling delays and equipment release delays, please submit by the "Return By" date.

CHECKED BY:

DESIGNER: ENGINEER:

X	NO EXCEPTION TAKEN		MAKE CORRECTIONS NOTED
	SUBMIT SPECIFIED ITEM		REVISE AND RESUBMIT
	REJECTED		

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Equipment supplier is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and satisfactory performance of his work.

Job #:	5768
Date:	1/25/17
By:	ARC