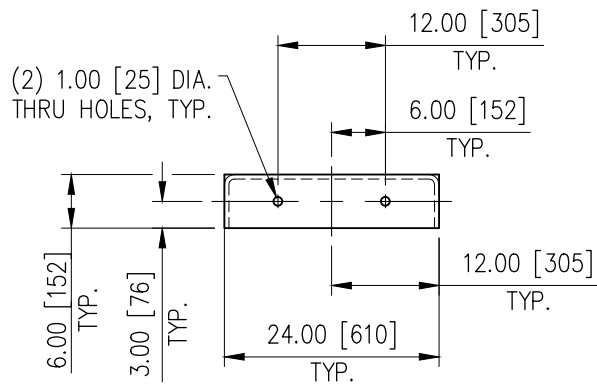
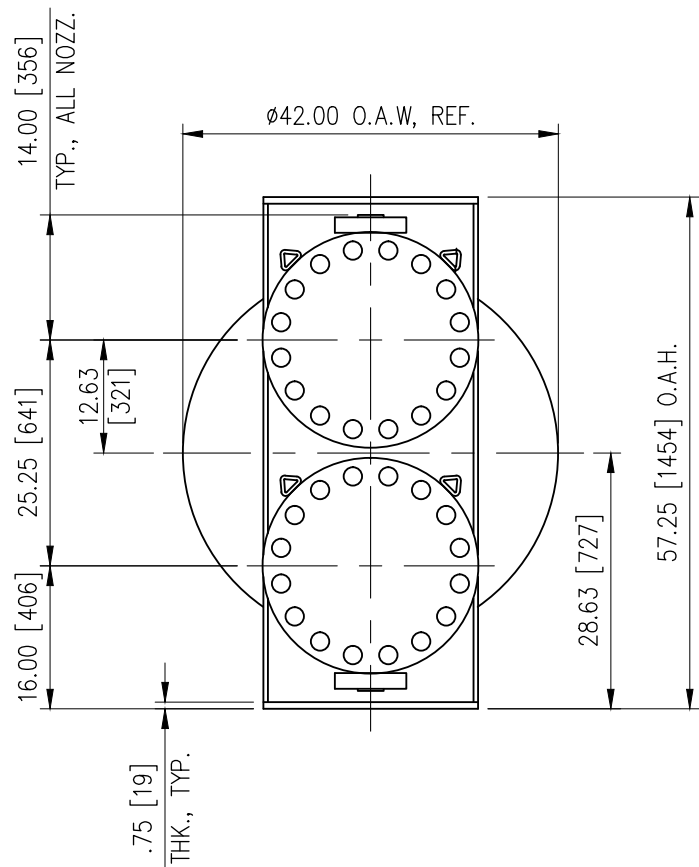
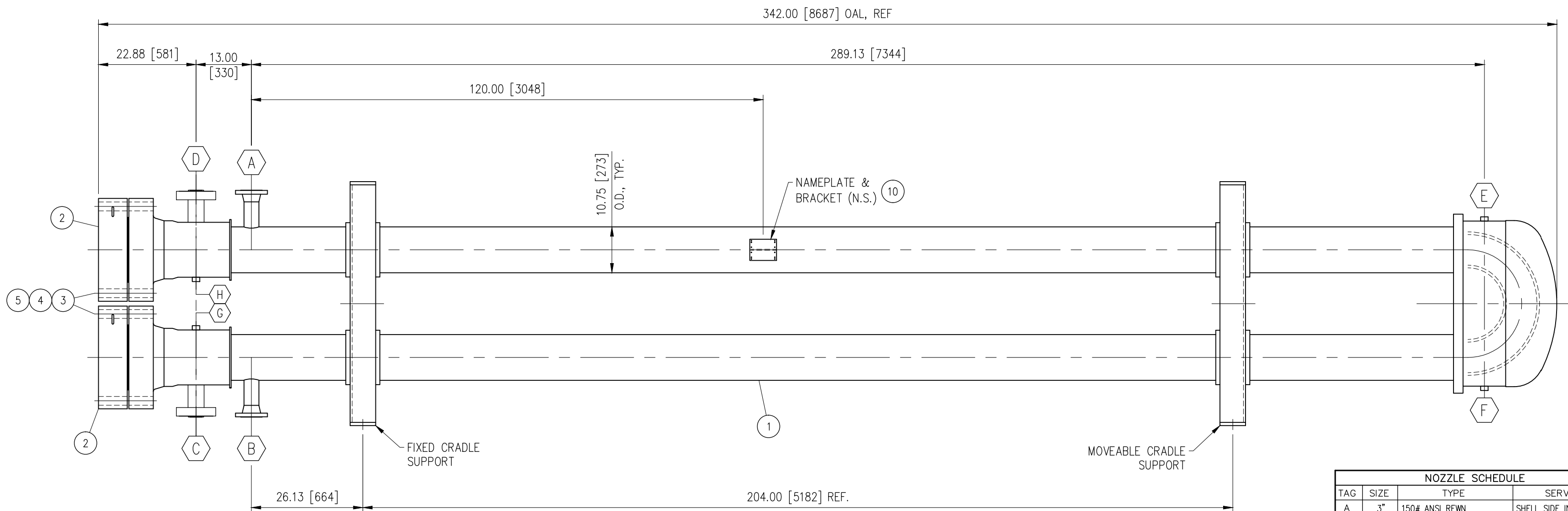


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NOTES:

- 1.) QUANTITY: ONE (1) TOTAL
- 2.) EXTERNAL FINISH: SHELL SIDE: SANDBLAST PER SSPC-SP-6
PRIME COAT: KEM HI-TEMP 850 @ 1-1.5 MILS DFT. COLOR: LIGHT GRAY.
TOP COAT: KEM HI-TEMP 850 @ 1-1.5 MILS DFT. COLOR: STEEL GRAY
EXTERNAL FINISH: TUBE SIDE: ALUMINUM OXIDE BLAST
- 3.) INTERNAL FINISH: BLAST PER STD SHOP PRACTICE.
- 4.) ESTIMATED WEIGHTS:
EMPTY: 11280 LBS [5117 KGS]
FLOODED: 14430 LBS [6545 KGS]
COVER: 875 LBS [397 KGS]



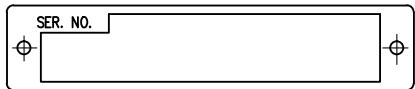
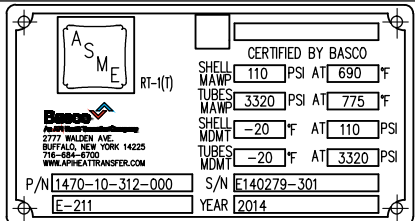
NOZZLE SCHEDULE			
TAG	SIZE	TYPE	SERVICE
A	3"	150# ANSI RFWN	SHELL SIDE INLET
B	3"	150# ANSI RFWN	SHELL SIDE OUTLET
C	2"	2500# ANSI RFLWN	TUBE SIDE INLET
D	2"	2500# ANSI RFLWN	TUBE SIDE OUTLET
E	3/4"	6000# NPT CPLG	SHELL SIDE VENT
F	3/4"	6000# NPT CPLG	SHELL SIDE DRAIN
G	3/4"	6000# NPT CPLG	TUBE SIDE VENT
H	3/4"	6000# NPT CPLG	TUBE SIDE DRAIN
J			
K			
L			
M			
N			

DESIGN DATA		
	SHELL SIDE	TUBE SIDE
DESIGN PRESSURE	110 PSIG / 7.6 Bar	3320 PSIG / 228.9 Bar
TEST PRESSURE	158 PSIG / 10.9 Bar	5395 PSIG / 372 Bar
DESIGN TEMP	-20/690T -29/365°C	-20/775T -29/413°C
CORR. ALLOWANCE	125 [.35]	NONE
RADIOGRAPHY	NONE	FULL PER CODE
PWHT	NONE	NONE

TUBE/TUBE SHEET JOINT = STRENGTH WELDED

MATERIALS OF CONSTRUCTION		
PART	SHELL SIDE	TUBE SIDE
TUBES	SA-249 316	
TUBESHEETS	SA-240 316	
BAFFLE/FINS	STEEL	
HEADS	SA-516 70	SA-516 70N W/316 OVERLAY
SHELL	SA-53 B / SA-516 70	SA-182 F316
NOZZ FLGS	SA-105	SA-182 F316
CPLGS	SA-105	SA-182 F316
BOLTS/NUTS	SA-193 B7 / SA-194 2H	ZINC PLATED
GASKETS	316SS SPIRAL WOUND CGI	
O-RINGS		
BODY FLGS	SA-516 70	SA-182 F316

DIMENSIONS & DATA CERTIFIED FOR	
CUST. ORDER: 008317	PATRIOT FUELS BIODIESEL, LLC
BASCO ORDER: E140279-301	
BY: WH	DATE: 07/23/2014
CODES:	
ASME VIII, Div. 1 2013 ED	TEMA R



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DRAWN 07/23/2014 BY: WH	CHECK JCS
SCALE 1:22	CONTRACT NO E140279-301

Basco 
An API Heat Transfer Company

HYDROLYSIS - COOLER
10 X 312 AW HAIRPIN

SIZE C	DWG NO 1470-10-312-000	REV 0
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12	0	PAINT: KEM HI-TEMP 850 (STEEL GRAY)					4051-02-0199-02
11	0	PAINT: KEM HI-TEMP 850 (LIGHT GRAY)					4051-99-0299-04
10	1	NAMEPLATE		STN. STL.			4072-01-0106-01
9	2	SHIP COVER: 3"-150#		PLASTIC			4075-03-1512-00
8	2	SHIP COVER: 2"-2500#		PLASTIC			4075-02-2512-00
7	2	PIPE PLUG: 3/4" NPT		SA-105			4020-95-0309-00
6	2	PIPE PLUG: 3/4" NPT		SA-182 316			4020-95-0311-00
5	64	HEX NUT: 1 7/8"-8 UN	ZINC PLTD	SA-194 2H			4026-58-0219-01
4	32	STUD: 1 7/8"-8 UN x 17.50" LG	ZINC PLTD	SA-193 B7			4022-58-9919-01
3	2	CHANNEL COVER GASKET		316SS SPWND			4012-09-1115-35
2	2	CHANNEL COVER		STEEL/316SS	A		3018-09-901-006
1	1	CORE ASSEMBLY		STEEL	C		2070-10-312-000
Item	Qty	Description	Mat'l	Specification	Size	Dwg No	Part No