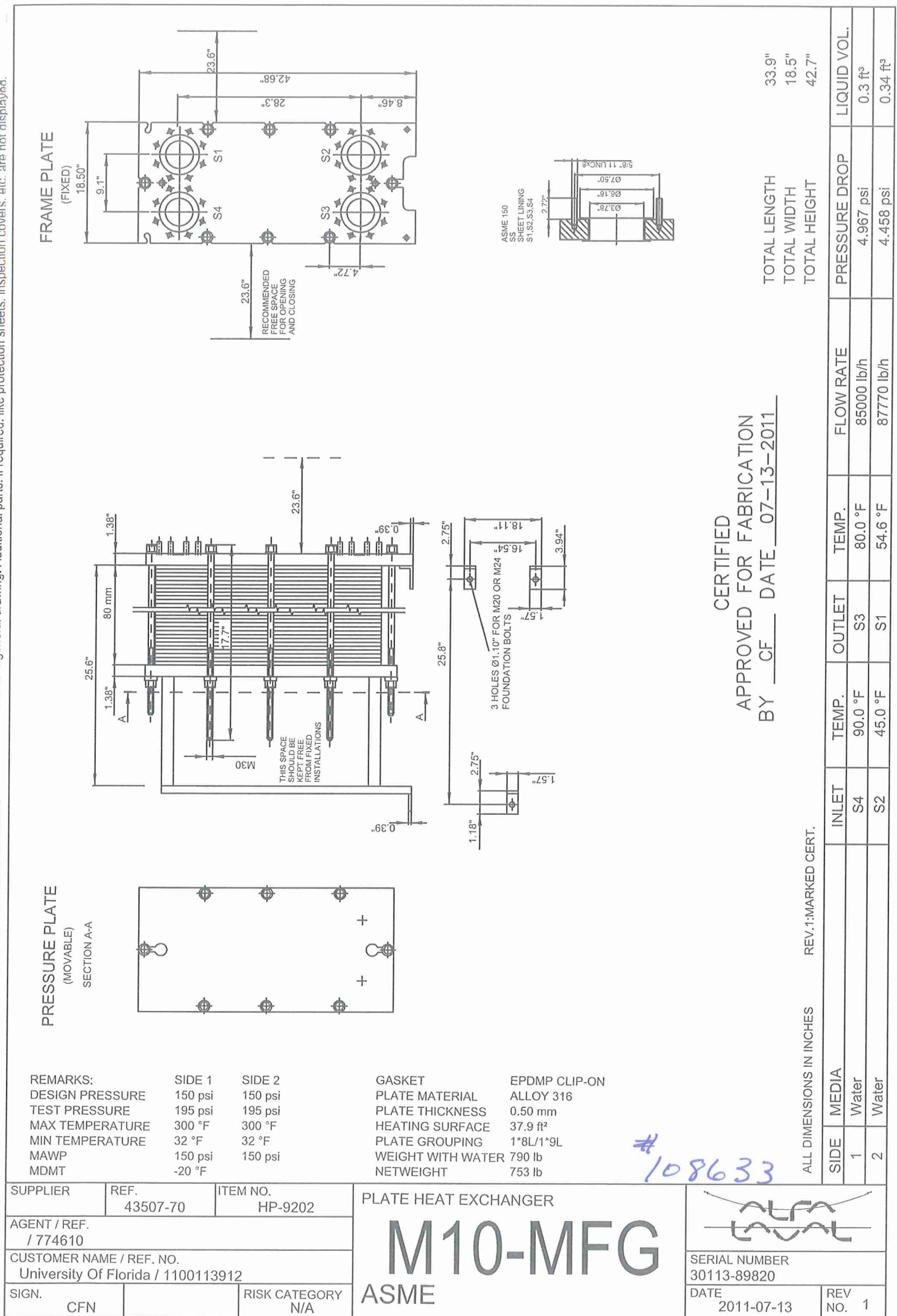


Designed constructed and stamped in accordance with 2010 ASME Code and latest Addendum.

This is a general drawing. Additional parts, if required, like protection sheets, inspection covers, etc. are not displayed.



**Alfa Laval, Plate Heat Exchanger
Channel Plate Installation Description**

2011-07-13

Customer:	University Of Florida	SU Order No:	43507-70
Model :	M10-MFG	Serial No:	30113-89820
Customer PO:	1100113912	Item No:	HP-9202

Plate material and Thickness: ALLOY 316 0.50 mm

A Dimension: 80 mm

	Hot side	Cold side
Grouping:	1*8L	1*9L
Sealing material:	EPDMP CLIP-ON	EPDMP CLIP-ON
Port Locations:	S4 -> S3	S2 -> S1

Connection material: Stainless steel Stainless steel

Port hole with flow on the gasketed side: U

Port hole sealed with O-ring: O

Plates are assembled with the gasket side facing the frame plate.

Plate no.	Plate code no.	Plate Pattern		Punched corner of the plate				Flow direction on the gasket side of the plate
				upper left	lower left	lower right	upper right	
				S1	S2	S3	S4	
				=<=	=>=	=>=	=<=	
	FRAME PLATE							
1	39505819 83	M10 M2	A	O	O	O	O	
2	39505812 03	M10 M1	B	U	--<---	U	O	O
3	39505812 03	M10 M1	A	O	O	U	--<---	U
4	39505812 03	M10 M1	B	U	--<---	U	O	O
5	39505812 03	M10 M1	A	O	O	U	--<---	U
6,	8, ..., 12	39505812 03	M10 M1	B				
7,	9, ..., 13	39505812 03	M10 M1	A				
14	39505812 03	M10 M1	B	U	--<---	U	O	O
15	39505812 03	M10 M1	A	O	O	U	--<---	U
16	39505812 03	M10 M1	B	U	--<---	U	O	O
17	39505812 03	M10 M1	A	O	O	U	--<---	U
18	39505819 76	M10 M2	B		--<---			
	PRESSURE PLATE							
				T1	T2	T3	T4	

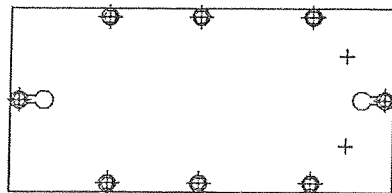
Article No:	Quantity:
39505819 83	1
39505812 03	16
39505819 76	1

CERTIFIED
APPROVED FOR FABRICATION
BY: CF DATE: 07-13-2011

Designed constructed and stamped in accordance with 2010 ASME Code and latest Addendum.

This is a general drawing. Additional parts, if required, like protection sheets, inspection covers, etc. are not displayed.

PRESSURE PLATE
(MOVABLE)
SECTION A-A



REMARKS:	SIDE 1	SIDE 2
DESIGN PRESSURE	150 psi	150 psi
TEST PRESSURE	195 psi	195 psi
MAX TEMPERATURE	300 °F	300 °F
MIN TEMPERATURE	32 °F	32 °F
MAWP	150 psi	150 psi
MDMT	-20 °F	

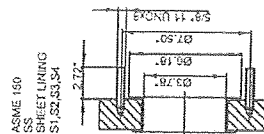
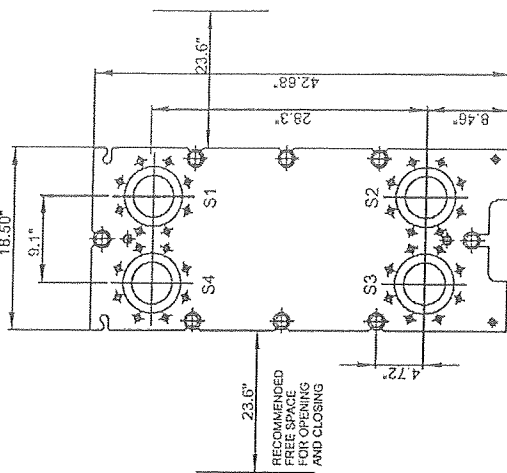
GASKET	EPDM CLIP-ON
PLATE MATERIAL	ALLOY 316
PLATE THICKNESS	0.50 mm
HEATING SURFACE	37.9 ft²
PLATE GROUPING	1*8L/1*9L
WEIGHT WITH WATER	790 lb
NETWEIGHT	753 lb

SUPPLIER	REF. 43507-70	ITEM NO. HP-9202
AGENT / REF. / 774610		
CUSTOMER NAME / REF. NO. University Of Florida / 1100113912		
SIGN. CFN		RISK CATEGORY N/A

PLATE HEAT EXCHANGER

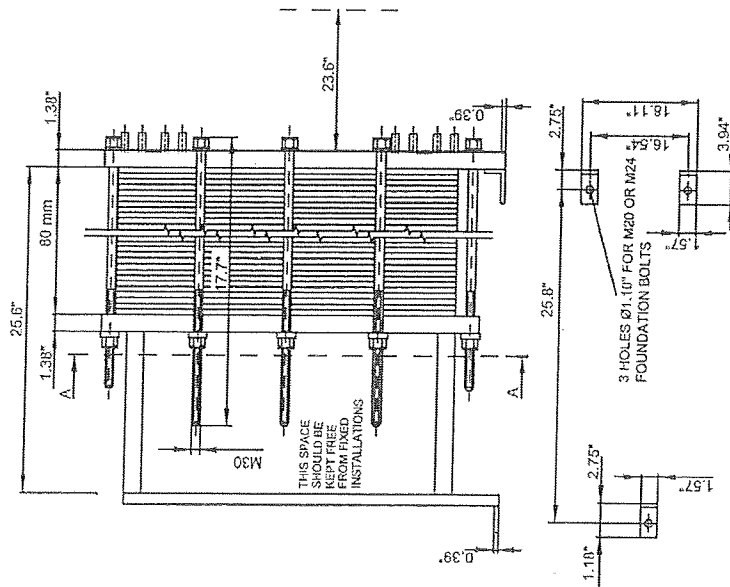
M10-MFG
ASME

FRAME PLATE
(FIXED)



FOR APPROVAL
☐ Approved as Submitted
☐ Approved as Noted
☐ Not Approved

Name TRIL Date 5/31/11



new physical properties
used.

TOTAL LENGTH
TOTAL WIDTH
TOTAL HEIGHT

33.9"
18.5"
42.7"

ALL DIMENSIONS IN INCHES

SIDE	MEDIA	INLET	TEMP.	OUTLET	TEMP.	FLOW RATE	PRESSURE DROP	LIQUID VOL.
1	Water	S4	90.0 °F	S3	80.0 °F	85000 lb/h	4.967 psi	0.3 ft³
2	Water	S2	45.0 °F	S1	54.6 °F	87770 lb/h	4.458 psi	0.34 ft³

SERIAL NUMBER
30113-89820

DATE 2011-05-13

REV	
NO.	0

#108633

30113-89820

Alfa Laval, Plate Heat Exchanger
Channel Plate Installation Description

2011-05-13

Customer: University Of Florida SU Order No: 43507-70
Model : M10-MFG Serial No: 30113-89820
Customer PO: 1100113912 Item No: HP-9202

Plate material and Thickness: ALLOY 316 0.50 mm

A Dimension: 80 mm

Grouping:	Hot side	Cold side
Sealing material:	1*8L	1*9L
Port Locations:	EPDMP CLIP-ON	EPDMP CLIP-ON
	S4 -> S3	S2 -> S1

Connection material: Stainless steel Stainless steel

Port hole with flow on the gasketed side: U

Port hole sealed with O-ring: O

Plates are assembled with the gasket side facing the frame plate.

Plate no.	Plate code no.	Plate Pattern		Punched corner of the plate				Flow direction on the gasket side of the plate
				upper left	lower left	lower right	upper right	
				S1	S2	S3	S4	
				=<=	=>=	=>=	=<=	
1	39505819 83	M10 M2	A	O	O	O	O	
2	39505812 03	M10 M1	B	U	--<---	U	O	Up
3	39505812 03	M10 M1	A	O	O	U	--<---	Down
4	39505812 03	M10 M1	B	U	--<---	U	O	Up
5	39505812 03	M10 M1	A	O	O	U	--<---	Down
6,	8, ..., 12	39505812 03	M10 M1	B				
7,	9, ..., 13	39505812 03	M10 M1	A				
14	39505812 03	M10 M1	B	U	--<---	U	O	Up
15	39505812 03	M10 M1	A	O	O	U	--<---	Down
16	39505812 03	M10 M1	B	U	--<---	U	O	Up
17	39505812 03	M10 M1	A	O	O	U	--<---	Down
18	39505819 76	M10 M2	B		--<---			Up
		PRESSURE PLATE						
				T1	T2	T3	T4	

Article No:	Quantity:
39505819 83	1
39505812 03	16
39505819 76	1

108633

Plate Heat Exchanger



FOR APPROVAL

- ☐ Approved as Submitted
☒ Approved as Noted
☐ Not Approved

Name TPC Date 6/22/11

Technical Specification

Customer :
 Model : M10-MFG
 Project : FB&D Univ Of FL
 Item : HS-9202

Date: 9/21/2010

		Hot Side	Cold side
Fluid		Water	Water
Density	lb/ft ³	62.09	62.43
Specific heat capacity	Btu/lb, °F	1.00	1.00
Thermal conductivity	Btu/ft, h, °F	0.356	0.339
Viscosity inlet	cP	0.764	1.42
Viscosity outlet	cP	0.862	1.22
Mass flow rate	lb/h	85000	87770
Inlet temperature	°F	90.0	45.0
Outlet temperature	°F	80.0	54.6
Pressure drop	psi	4.97	4.46
Heat Exchanged	kBtu/h	849.2	
L.M.T.D.	°F	35.2	
O.H.T.C service	Btu/ft ² , h, °F	636.9	
Heat transfer area	ft ²	37.9	
Relative directions of fluids		Countercurrent	
Number of plates		18	
effective plates		16	
Number of passes		1	1
Extension capacity			27
Plate material / thickness		ALLOY 316 / 0.50 mm	
Sealing material		NBRP CLIP-ON	NBRP CLIP-ON
Connection material		Stainless steel	Stainless steel
Connection diameter		See drawing	See drawing
Nozzle orientation		S4 -> S3	S1 <- S2
Pressure vessel code		ASME	
Flange rating		ASME 150	
Design pressure	psi	150.0	150.0
Test pressure	psi	195.0	195.0
Design temperature	°F	300.0	300.0
Overall length x width x height	in	34 x 19 x 43	
Liquid volume	ft ³	0.3	0.3
Net weight, empty / operating	lb	751 / 788	
Packed weight(BOX(OCEAN))	lb	817	
Internal volume	ft ³	21.9	
length x width x height	in	43 x 24 x 37	

Fouling Resist?

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