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Liquid to liquid

Customer / Project	Line 20	Selection ID	NUN3J7L2K
Contact	IMH	Print date	8/24/2018
User name	Ian Hemingway		

Model: FP10X20L-110 (2-1/2" MPT)

Load (Btu/h)	1,453,092	Nominal surface (ft²)	141.8
Log mean temp. diff. (°F)	20.7	Dimensions	9.8W x 20.3H x 10.3D
Overall HTC (Btu/h·ft²·°F)	556	Plate construction	Single wall
Oversurface percent	12.5	Net weight (lb)	135.6
Model size	10x20L		

Design Conditions	Side A - Liquid	Side B - Liquid
Fluid type	**Water**	**Propylene glycol**
Fluid conc.		30
Fluid mass flow rate (lb/min)	1,409	857
Entering fluid temp. (°F)	160.0	115.0
Leaving fluid temp. (°F)	142.8	145.0
Fluid flow rate (GPM)	172.3	101.7
Fluid fouling factor (h·ft²·°F/Btu)	0.00010	0.00010
Model Parameters		
Number of channels	54	55
Velocity (ft/s)	1.48	0.86
Pressure drop (psi)	3.7	1.4
Heat transfer coef. (Btu/h·ft²·°F)	2,126	886
Internal volume (ft³)	0.555	0.565

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Ratings at Varying Conditions

Percent difference	**-15%**	**-7½%**	**0%**	**7½%**	**15%**
Pressure drop (psi) (Side A)	3.7	3.7	3.7	3.7	3.7
Pressure drop (psi) (Side B)	1.0	1.2	1.4	1.6	1.8
Load (Btu/h)	1,235,129	1,344,110	1,453,092	1,562,074	1,671,056
Fluid flow rate (GPM) (Side A)	172.3	172.3	172.3	172.3	172.3
Fluid mass flow rate (lb/min) (Side A)	1,408	1,409	1,409	1,409	1,410
Fluid flow rate (GPM) (Side B)	**86.4**	**94.1**	**101.7**	**109.3**	**117.0**
Fluid mass flow rate (lb/min) (Side B)	729	793	857	922	986
Entering fluid temp. (°F) (Side A)	160.0	160.0	160.0	160.0	160.0
Entering fluid temp. (°F) (Side B)	115.0	115.0	115.0	115.0	115.0
Leaving fluid temp. (°F) (Side A)	145.4	144.1	142.8	141.5	140.2
Leaving fluid temp. (°F) (Side B)	145.0	145.0	145.0	145.0	145.0
Oversurface percent	30.0	20.8	12.5	5.0	-1.9

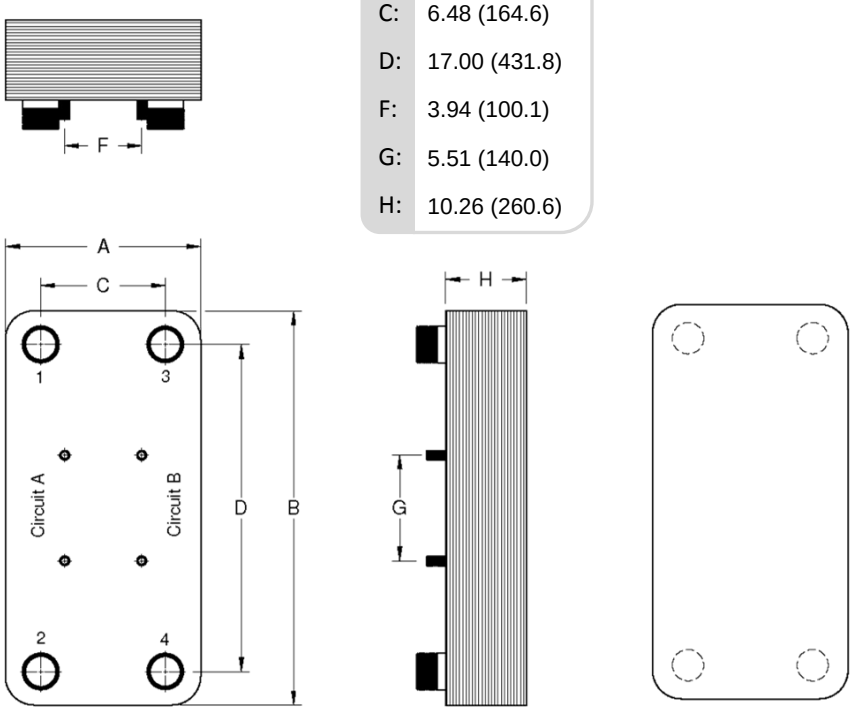
Disclaimer

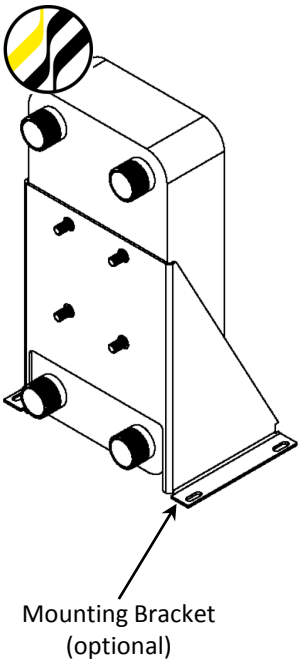
Dimension Sheet Brazed Plate Heat Exchanger

Contact: IMH	Selection ID: NUN3J7L2K
Customer / Project: Line 20	
Model Nomenclature: **FP10X20L-110 (2-1/2" MPT)**	

Dimensions - inches (mm): Reference only

A:	9.80 (248.9)
B:	20.30 (515.6)
C:	6.48 (164.6)
D:	17.00 (431.8)
F:	3.94 (100.1)
G:	5.51 (140.0)
H:	10.26 (260.6)





Connections

Circuit A		Circuit B	
Position 1	Position 2	Position 3	Position 4
2-1/2" MPT	2-1/2" MPT	2-1/2" MPT	2-1/2" MPT

Volume per BPHE

Circuit A	Circuit B
0.555 ft³ (15.723 L)	0.565 ft³ (16.014 L)

Net Weight: 135.6 lb (61.5 kg)

Installation Notes:

- Pipe in counter flow direction.
- Water strainer should be installed in the fluid inlet circuit to protect the heat exchanger from blockage (20-40 mesh).
- Thread Connections – Use Teflon tape or other sealant on male threaded part of the connection to prevent leakage.

Technical Data

Standard construction materials:

Braze Alloy:	Copper 99.9%
Connector:	304 Stainless Steel
Plate:	316L Stainless Steel

Code Approvals: UL Listed, CRN
Optional: ASME (UM stamped), PED (CE)
Note: Code approval applies to heat exchangers only.

Allowable Working Pressure and Temperature:

Max pressure	Circuit A: 300 psig (20.7 bar ga) Circuit B: 300 psig (20.7 bar ga)
Max temperature	350.0 °F (176.7 °C)
Min temperature	-320.0 °F (-195.6 °C)

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