

POLARIS P.H.E. Design Calculation

V10A03

MODEL S121-IS10-330-TMTL80-LIQUID	Hot Side	Cold Side
Flow Rate (g.p.m.)	3600.00	3600.00
Inlet Temperature (°F)	98.00	85.00
Outlet Temperature (°F)	88.00	94.99
Pressure Drop (PSI)	10.00	10.00
Heat Exchanged (Btu/h)	17894069	
Fluid Properties	Water	Water
Density (Lb/Ft ³)	62.03	62.06
Specific Heat (Btu/Lb*F)	1.00	1.00
Thermal Conductivity (Btu/h*Ft*F)	0.36	0.36
Mean Viscosity (cP)	0.74	0.76
Wall Viscosity (cP)	0.76	0.74
Inlet Locations	F1	F3
Outlet Locations	F4	F2
Materials / Dimensions		
Plate Arrangement (Passes*Channels)	1 × 164 + 0 × 0	
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Number of Plates	330	
Heat Transfer Area (Ft ²)	4,448.50	
Overall K-value Duty/Clean (Btu/Ft ² *h*F)	1339 / 1339	
Plate Material	0.0197 inch AISI 304	
Gasket Material / Max. Temp.	NBR HT PRES-TITE	
Max. Design Temperature (°F)	284	
Max. Working/Test Pressure (PSI)	150.0 / 195.0	
Frame Type	IS Length Code: 6	
Connections HOT Side	12" Flange clad with AISI 316 #150	
Connections COLD Side	12" Flange clad with AISI 316 #150	
Total Hold-Up Volume (Ft ³)	54.59	
Frame Length (Ft)	8.94	Max. No. of Plates 348
Empty Weight (Lb)	10635	
DATE	3/1/2010	
CUSTOMER	BULLOCK, LOGAN & ASSOCIATES	
ADDRESS	ELK GROVE VILLAGE, IL	
CUSTOMER REFERENCE	RUBICON - WEST CHICAGO	
QUOTE#	D-5754	
ITEM#	2	

Polaris P.H.E. LLC
Phone: +1 732 225 3100

28 May Street
Fax: +1 732 225 9155

Edison, NJ 08837 USA
sales@polarisphe.com