

POLARIS P.H.E. Design Calculation

V10A03

| MODEL S121-IS10-294-TMTL83-LIQUID | Hot Side | Cold Side |
|---|---------------------------------------|--------------|
| Flow Rate (g.p.m.) | 3200.00 | 3200.00 |
| Inlet Temperature (°F) | 98.00 | 85.00 |
| Outlet Temperature (°F) | 88.00 | 94.99 |
| Pressure Drop (PSI) | 10.02 | 10.02 |
| Heat Exchanged (Btu/h) | 15905839 | |
| 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 × 146 + 0 × 0 | |
| Plate Arrangement (Passes*Channels) | 1 × 147 + 0 × 0 | |
| Number of Plates | 294 | |
| Heat Transfer Area (Ft ²) | 3,960.25 | |
| Overall K-value Duty/Clean (Btu/Ft ² *h*F) | 1337 / 1337 | |
| 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 CLADDED WITH AISI 316 #150 | |
| Connections COLD Side | 12" FLANGE CLADDED WITH AISI 316 #150 | |
| Total Hold-Up Volume (Ft ³) | 48.61 | |
| Frame Length (Ft) | 8.94 Max. No. of Plates 348 | |
| Empty Weight (Lb) | 10091 | |
| DATE | 3/9/2010 | |
| CUSTOMER | BULLOCK, LOGAN & ASSOCIATES | |
| ADDRESS | ELK GROVE VILLAGE, IL | |
| CUSTOMER REFERENCE | RUBICON - WEST CHICAGO | |
| QUOTE# | D-5754A | |
| ITEM# | 1 REVISED FLOW | |

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