**Summary:**

* Description: 1-4 Shell & Tube Heat Exchanger
* Shells per Pass: 1
* Surface area: 59.8 m2

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| --- | --- | --- |
| **Operating Data for One Unit** | | |
| **Units** | **Shell Side** | **Tube Side** |
| **Description of fluids** | **Kerosene** | **Cooling Water** |
| Liquid Flow Rate kg/h | 15500 | 46625.49 |
| Density kg/m3 | 775 | 993 |
| Absolute Viscosity cp | 1 | 0.7 |
| Specific Heat J/kg °C | 2155 | 4179 |
| Thermal Conductivity W/m °C | 0.138 | 0.64 |
| Temperature °C | Inlet-110 Outlet-40 | Inlet-33 Outlet-45 |
| Maximum Pressure Drop kg/cm2 | 0.7 | 0.7 |
| Operating Pressure Drop kg/cm2 | 0.13 | 0.3 |
| Number of Passes | 1 | 4 |
| Velocity m/s | 0.82 | 0.39 |
| Fouling Resistance m2 °C/W | 0.0002 | 0.00024 |

* Overall Heat Transfer Coefficient: 550 W/m2 °C (assumed), 530 W/m2 °C (estimated)
* Material: Brass
* Tube OD: 1 inch, Length: 16 feet, Pitch: 1.25 inch (triangular)
* Shell ID: 0.573 m
* Baffle Spacing: 0.1146 mm, Baffle Cut: 25%
* Shell Head Cover: Split-ring floating head
* Thermal Conductivity: 109 W/m °C
* No. of tubes: 170
* Corrosion Allowance: 3 mm