**Nomenclature used in Software**

Provide following inputs in the software

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Symbol** | **Units** | **Description** |
| Shell-side geometry data | | | |
| Tube and tube layout | | | |
| 1 | *Ds* | mm | Inside shell diameter |
| 2 | *Dt* | mm | Tube outside diameter |
| 3 | *Ltw* | mm | Tube wall thickness |
| 4 | *Dti* | mm | Inside tube diameter |
| 5 | λ*tw* | W/m K | Tube wall material thermal conductivity |
| 6 | *Ltp* | mm | Tube layout pitch |
| 7 | *θtp* | deg | Tube layout characteristic angle |
| Tube length | | | |
| 8 | *Lto* | mm | Overall nominal tube length |
| 9 | *Lti* | mm | Baffled tube length |
| 10 | *Lta* | mm | Effective tube length for heat transfer area |
| Baffle geometry | | | |
| 11 | *Bc* | % | Baffle cut as percent of *Ds* |
| 12 | *Lbc* | mm | Central baffle spacing |
| 13a | *Lbi* | mm | Inlet baffle spacing (optional) |
| 13b | *Lbo* | mm | Outlet baffle spacing (optional) |
| Nozzle | | | |
| 14 | CN | code | Shell-side nozzle, impingement protection, annular distributor |
| Tube bundle geometry | | | |
| 15 | *Ntt* |  | Total number of tubes or holes in tubesheet for U-tubes |
| 16 | *Ntp* |  | Number of tube passes |
| 17 | *Nss* |  | Number of sealing strips (pairs) |
| 18 | CB | code | Tube bundle type (FX, UT, SRFH, PFH, PTFH) |
| 19 | *Ltb* | mm | Tube OD (*Dt*)-to-baffle hole clearance (diametral), |
| 20 | *Lsb* | mm | Inside shell-to-baffle clearance (diametral), |
| 21 | *Lbb* | mm | Inside shell-to-tube bundle bypass clearance (diametral), |
|  | | | |
| Temperatures | | | |
| 22 | *Tsi* | °C | Shell-side temperature inlet |
| 23 | *Tso* | °C | Shell-side temperature outlet |
| 24 | *Tti* | °C | Tube-side temperature inlet |
| 25 | *Tto* | °C | Tube-side temperature outlet |
|  | | | |
| Shell-side process information | | | |
| 26 | *Ṁs* | kg/s | Shell fluid mass flow rate |
| At shell fluid mean temperature | | | |
| 27 | *ρs* | kg/m3 | Density |
| 28 | λ*s* | W/m K | Thermal conductivity |
| 29 | (*cp*)*s* | J/kg K | Specific heat |
| 30 | *ηs* | cP = mPa/s | Dynamic viscosity (may require two values) |
| 31 | *Rf,o* | mK/W | Shell-side fouling resistance (referred to shell-side surface) |
|  | | | |
| Tube-side process information | | | |
| 32 | *Ṁt* | kg/s | Tube fluid mass flow rate |
| At tube fluid mean temperature | | | |
| 33 | *ρt* | kg/m3 | Density |
| 34 | λ*t* | W/m K | Thermal conductivity |
| 35 | (*cp*)*t* | J/kg K | Specific heat |
| 36 | *ηt* | cP = mPa/s | Dynamic viscosity (may require two values) |
| 37 | *Rf,i* | m K/W | Tube-side fouling resistance (referred to inside tube surface) |
|  | | | |
| Special information | | | |
| 38 | *αs* | W/m2 K | Shell-side heat transfer coefficient; if specified, omit items as shown in comments |
| 39 | *αt* | W/m2 K | Tube-side heat transfer coefficient; if specified, omit items as shown in comments |
| 40 | (Δ*ps*)max | kPa | Maximum permissible pressure drop, shell side |
| 41 | (Δ*pt*)max | kPa | Maximum permissible pressure drop, tube side |
| 42 | (*vt*)max | m/s | Maximum permissible tube-side flow velocity (optional) |
| 43 | (*vt*)min | m/s | Minimum acceptable tube-side flow velocity (optional) |



Click Button to get the results



Click to do analysis of different parameters